TELEPHONE ENGINEER & MANAGEMENT

the telephone industry magazine

November 1, 1961, 50 cents

Let our "Revenue Men" TURN YOUR DIRECTORY PROBLEMS INTO PROFITS

Take a man like

Harold Verucchi

Harold is one of our "Revenue Men" in Princeton, Illinois.

He knows the territory well, and is well-known in the territory. In high school, Harold established a name for himself on the football field, the basketball court as well as the track cinders, and devoted his excess energy to the school paper, speech club and glee club.

After graduation, Harold started his business career as a wholesale routeman in dairy products. A short time later, he became a department manager in a chain store branch.

It was in 1953 that Harold joined General Telephone as a salesman in our Kewanee, Illinois, unit. He was promoted to Sales Supervisor of our Princeton unit in 1958.

Harold and his wife have two fine young children. You'll find Harold active in community groups like the Elks, the Princeton JC's, and his Men's Club at church.

Harold is typical of the "Revenue Men" who work for General Telephone Directory Company and for you. And they all have one thing in common—they are always an asset to any community in which they live.

Our Directory "Revenue Men" provide the Independent Telephone Industry with a flexible and highly skilled telephone directory organization. These men—working out of 35 strategic locations—are experienced specialists, trained to give you *complete* and *quality directory service.*

They act as telephone company representatives in their day-to-day contacts with your customers, not only selling and supervising the sale of Yellow Pages advertising—but also acting as public relations representatives for you in their dealings with the public.

Thoroughly trained to know any condition that pertains to telephone service, they're experienced hands at helping large and small Independent Telephone Companies "take the kinks out of knotty directory problems!"

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WRITE **TODAY** FOR MORE INFORMATION ABOUT THIS **PRESTIGE** GIFT-GIVING IDEA!

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TE-22

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new TYPE 60 loading coil offers greater

Meet AE's new *stock* Type 60 Loading Coil. It's a high-voltage loading coil—at least 10kv's DC between windings—for use with today's plastic cable and designed to meet REA specifications. Type 60 brings you these two important benefits:

FLEXIBILITY! Type 60 gives you greater flexibility in adding to outside plant. You can order a single Type 60 from stock to meet your exact needs. Or, you can order it from stock in multiple-coil assemblies for cable splice, terminal or housing mountings. Also available from stock in larger assemblies of 25 to 150. These assemblies are enclosed in steel or lead cases with 10′ plastic cable stubs.

SNAP-IN INSTALLATION! Type 60 installs faster. In splice cable mounting, multiple-coil assemblies quickly snap into U-shaped clips, which are locked in place. Type 60 offers easy identification of all coil leads, too. Installer can rotate assemblies to bring all color-coded leads in front of him. Leads appear at top of assembly—not the ends—to also give position coding.

New Type 60 Loading Coils are another way for you to provide top transmission standards for present-day outside plant. Whatever your needs for better transmission—whether it's loading coils, repeaters or cable—*AE has it!*

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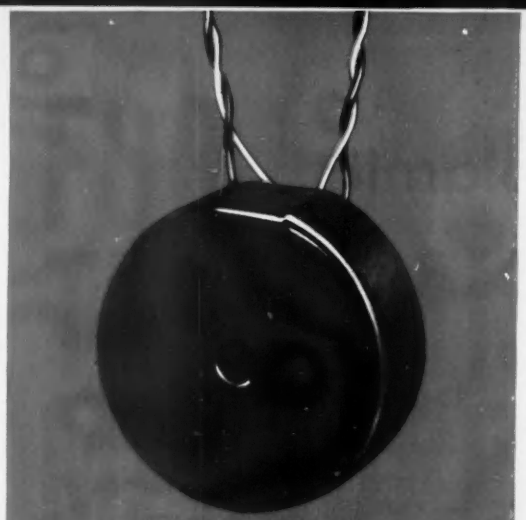

Single Type 60 Loading Coil with high permeability core. Individually potted in a moisture-resistant resin shell.

Lead cased assembly for strand, pole or burial installation. Available with 25, 50, 75, 100, 125 or 150 coils. Can also be ordered in steel cases for pole or burial installation.

flexibility, faster installation

Multiple-coil potted assembly mounted in splice case. Available in multiple-coil assemblies of 3, 6, 12, 18 and 25 for splice case mounting.

Ask for Circular 1978. It describes new Type 60 Loading Coils in detail and gives full ordering information. For your copy, write: Automatic Electric Sales Corporation, Northlake, Illinois

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Roy F. Smith

EDITOR
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MANAGING EDITOR
Robert Dorsett

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Dick Reynolds

TECHNICAL EDITOR
John S. Reed

EDITORIAL ASSISTANT
Pat Cullinan

WASHINGTON EDITORS
Roland Davies & Fred Henck

CONTRIBUTING EDITORS
Bill Corman, C. D. Ehinger, L. A. Gritten, D. A. Perigo, Allan R. Stacey

ADVERTISING STAFF

ADVERTISING MANAGER
Donald C. Sorensen

ASSISTANT ADVTG. MANAGER
Ray Geraci

ADVERTISING ASSISTANT
Betsy Meyers

ADVTG. REPRESENTATIVES
Keith H. Evans & Associates
133 S. Alvarado St.
Los Angeles 57, Calif.
Phone: DUnkirk 8-2981
and
681 Market St., Rm. 1095.
San Francisco 5. Calif.
Phone: YUkon 2-4280

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PRESIDENT
Roy F. Smith

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John G. Reynolds

CORPORATE SECRETARY
Betty Schroeder

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THE TE&M COVER: Bell Telephone Laboratories technicians prepare a developmental model of a Bell System active communications satellite for special radio measurements. The 34-inch sphere is scheduled for launch into orbit next spring. It will be used for Bell System experiments in the relaying of telephone calls, television signals and other communications overseas. Arrays of solar cells, used to convert sunlight into electricity, cover most of the surface. Microwave radio receiving and transmitting antennas form the belt around the middle of the satellite.

The satellite is shown in a special laboratory at Holmdel, N. J., that simulates the radio environment of space. Loren L. Dale, left, and W. David Baker prepare the satellite for measurements of antenna characteristics.

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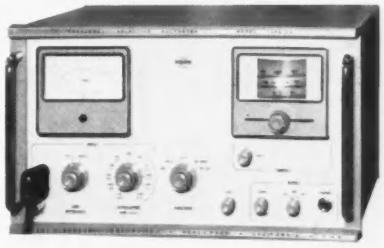

Direct-reading frequency, continuously tunable. Virtual elimination of spurious responses. Variable selectivity – 250, 2,500 cps, each 3 db down. Accuracy ±1 db, – 80 to + 32 dbm (as flat VTVM, ±0.5 dbm, – 20 to + 32 dbm), ideal for measuring carrier levels. Self-contained crystal oscillator for both frequency and level calibration

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SPECIFICATIONS common to selective operation of the

Sierra Model 125A, popular general purpose model

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3-620 kc	±125 cps ±1250 cps	±500 cps ±5 kc	±1 kc	±2 kc	±1 db	Bal. or unbal. 135 & 600 Ω; bridging input impedance, 20 kΩ nominal.

The Sierra Model 158A Frequency Selective Voltmeter operates from 500 kc to 10 mc; selectivity ±2000 cps 3 db down, ±20 kc 45 db down; frequency accuracy ±0.056 mc low end, ±0.08 mc high end; measuring accuracy ±2 db; line impedance for direct reading in dbm, unbalanced 600 ohms.

Three flexible models in the convenient Sierra 125 series of Frequency Selective Voltmeters

Rapid location of faults on cables, transmission lines!

Sierra Model 124A Line Fault Analyzer; Instantly pinpoints shorts, opens, grounds, indicates nature of fault, plus exact location. Easy to use, operates on "radar" principles; operates on most metallic power and communication lines, direct reading ½ to 100 miles, accuracy within ¼ mile.

Write or call Sierra today for complete data on these and other instruments for communications application.

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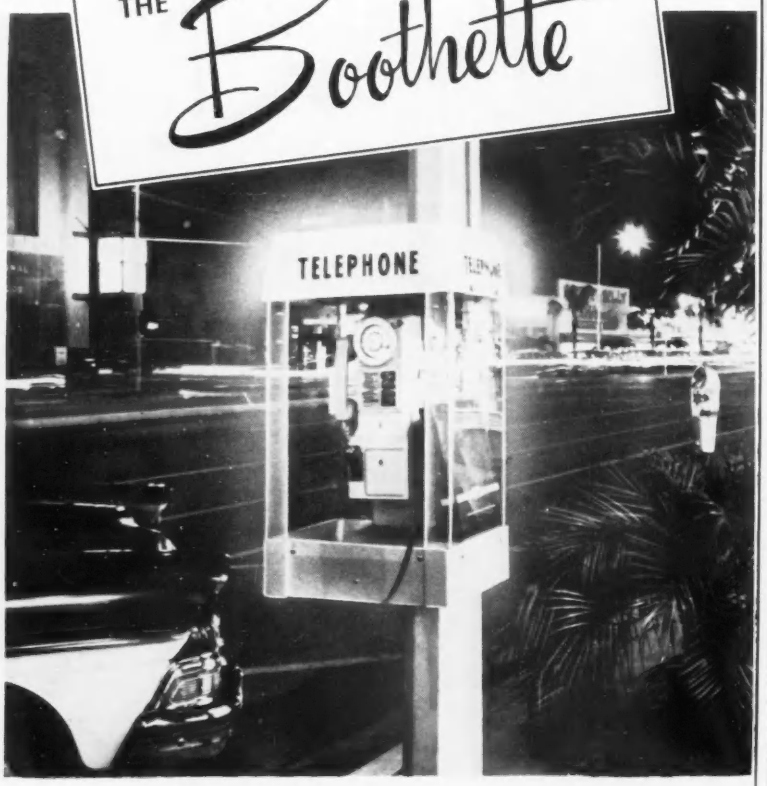

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Silk screened on the inside, the signing will last forever. Fluorescent lighting glows through the durable plastic dome to draw nighttime users—and to protect the phone from thieves and vandals. The dome can be white, blue or red with large contrasting red, blue or white letters, or special colors as required.

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coming CONVENTIONS

OKLAHOMA Tel. Assoc. Skirvin Hotel, Oklahoma City, Okla., Nov. 8-9.

ALABAMA-MISSISSIPPI Tel. Assoc., Thomas Jefferson Hotel, Birmingham, Ala., Nov. 12-14.

FLORIDA Tel. Assoc., The Carillon Hotel, Miami Beach, Fla., Nov. 26-28.

NORTH CAROLINA Tel Assoc., Carolina Hotel, Pinehurst, N. C., Dec. 4-5.

NATIONAL Tel Coop. Assoc., Jung Hotel, New Orleans, La., Jan. 15-17, 1962.

MINNESOTA Tel. Assoc.,Radisson Hotel, Minn., Minn., Feb. 25-28, 1962.

KENTUCKY Tel. Assoc., Phoenix Hotel, Lexington, Ky., Mar. 6, 1962.

TEXAS Telephone Assoc., Sheraton-Dallas Hotel, Dallas, Texas, Mar. 11-13, 1962.

IOWA Tel. Assoc., Roosevelt Hotel, Cedar Rapids, Ia., Mar. 19-20., 1962.

OHIO Tel. Assoc., Deshler Hilton Hotel, Columbus, Ohio, Apr. 3-4, 1962.

WISCONSIN Tel. Assoc., Plankinton Hotel, Milwaukee, Wisc., May 8-9, 1962.

INDIANA Tel. Assoc., Claypool Hotel, Indianapolis, Ind., May 9-10, 1962.

MISSOURI-KANSAS Tel. Assoc., Town House Hotel, Kansas City, Kan., May 21-22, 1962.

ILLINOIS Tel. Assoc., Abraham Lincoln Hotel, Springfield, Ill., May 24-25, 1962.

PENNSYLVANIA Tel. Assoc., Bedford Springs Hotel, Bedford, Pa., June 4-6, 1962.

NEW YORK Tel. Assoc., White Face Inn on Lake Placid, Whiteface, N. Y., June 11-13, 1962.

CALIFORNIA Tel. Assoc., Jack Tar Hotel, San Francisco, June 13-14, 1962.

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From many convenient locations, quality Keystone Wire is available for the needs of the telephone industry. Keystone offers a full range of Class A line wire in 50M, 85M and 135M tensile strengths. All line wires meet the specifications of A.S.T.M. and A.T.&T. and are approved by R.E.A. Your Keystone Distributor also offers a full line of galvanized bond, tie and construction wire in a full range of gauges. For quality wire—and prompt delivery—contact your nearest Keystone Telephone Wire Distributor or write direct for information.

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The Mine & Smelter Supply Co.
Salt Lake City, Utah
Nelson Electric Supply Co.
Dallas, Texas
Lubbock, Texas
Piedmont Electric Supply Corporation
Charlottesville, Virginia
Jack Pruzan Co.
Seattle, Washington
Southern Electrical Corp.
Chatanooga, Tennessee
Stromberg-Carlson
A Division of General Dynamics
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Tennessee Valley Electric Supply Co.
Memphis and Nashville, Tennessee
Little Rock, Arkansas

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. . . by the makers of famous Red Brand Fence

NEWSLETTER TELEPHONE INDUSTRY

Prepared By The Editorial Staff of TELEPHONE ENGINEER and MANAGEMENT

ON THE 1st OF EACH MONTH ★ ON THE 15th OF EACH MONTH

Dear Sir: November 1, 1961

MID-CONTINENT TEL. CORP. TO ACQUIRE ASHTABULA TEL. CO. Shareholders of The Ashtabula (Ohio) Tel Co., have voted to accept proposal from Mid-Continent Telephone Corp., Elyria, Ohio, to exchange Ashtabula assets for Mid-Continent stock subject to approval of the Public Utilities Commission of Ohio, it was announced last month by Howard M. Wright, pres. of Ashtabula Tel. Co. and Weldon W. Case, president of Mid-Continent Tel. Corp. Mid-Continent will acquire its eighth telephone affiliate and 16,500 additional telephones to serve.

5.3 shares of Mid-Continent common stock will be distributed for each share of Ashtabula Telephone stock outstanding. "With Mid-Continent currently selling at about $25 a share," Case said, "this makes our offer the equivalent of about $7,950,000 for the Ashtabula Telephone Company's assets."

Mid-Continent Tel. Corp. was incorporated June 6, 1960, as holding company for five telephone systems, serving more than 50,000 telephones in 13 Ohio counties. It has acquired The Kenton (Ohio) Tel. Co., and The Geneva (Ohio) Tel. Co. Total telephones served are now more than 66,740, and rise to 83,240 telephones served is prospect, if shareholders of Ashtabula Tel. Co. approve Mid-Continent offer. Four of affiliated systems, The Chardon Tel. Co., The Elyria Tel. Co., The Geneva Tel. Co., and The Western Reserve Tel. Co., serve portions of 7 northeastern Ohio counties. Two affiliates, The Citizens Tel. Co., and Home Tel. Co. of Fairview, serve portions of 8 southeastern Ohio counties. One affiliate, The Kenton Tel. Co., serves part of Hardin County.

TELEFONOS de MEXICO SPENDING $25 MILLION ON PHONE SYSTEM IMPROVEMENTS . . . Telefonos de Mexico, S. A., has announced it will spend $25 million this year on development of telephone system. Of the total, 35 per cent will be on new equipment for automatic & manual exchanges, 44 per cent on outside line & equipment, 25 per cent on long distance installations, & remainder for land purchases & building construction. Company also reported microwave system, eventually to tie in with Bell System's facilities in United States, "is developing satisfactorily." Part of system linking Mexico City & Monterrey will be in operation by end of this year.

NEW ENGLAND BELL TO MAKE WESTERLY 100% OWNED SUBSIDIARY . . . Proposed share-for-share exchange of stock in Westerly (R. I.) Automatic Tel. Co. for stock of New England Tel. & Tel. Co. was outlined in September to Securities & Exchange Commission when New England company filed for registration an issue of 10,516 shares of its own stock, which it proposes to exchange for equal number of shares in Westerly company not now owned by New England Tel. & Tel. New England Tel. owns 71.73 per cent of outstanding shares.

MAY AGAIN PROPOSE REVISED OHIO UTILITY RATE FORMULA . . . A new attempt to revise Ohio's utility rate-making formula may be made by Governor DiSalle when the state legislature reconvenes Nov. 14 following a recess. Informing the press that he is seriously considering sending to the lawmakers a special message urging a change in the formula, the governor asserted that "the sooner they revise that formula, the sooner we will have more realistic regulation in Ohio." DiSalle previously made two unsuccessful attempts to persuade Ohio legislators to abandon the

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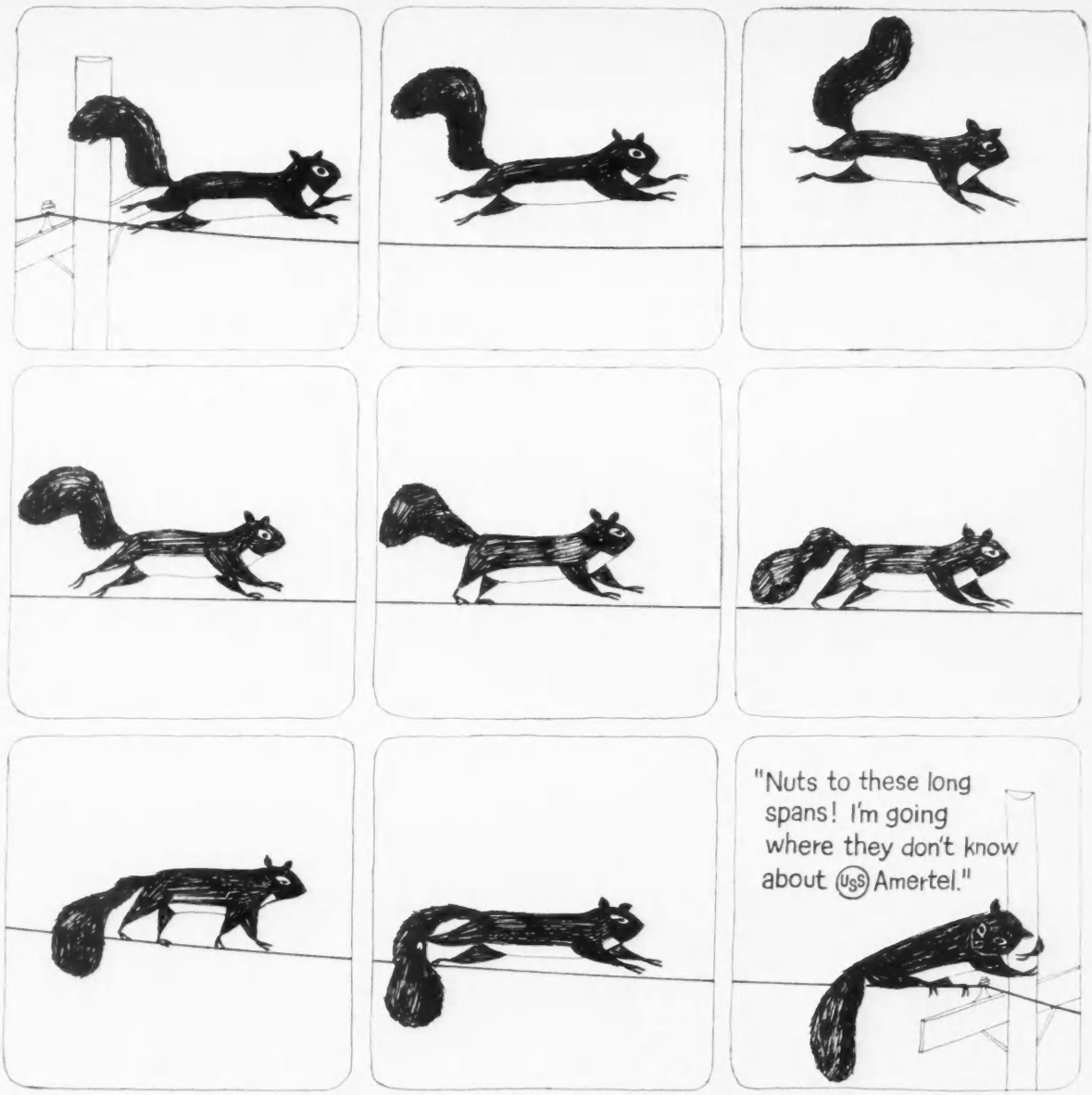

SORRY, old fellow, but it's just good business to use the very best wire on rural telephone lines . . . and that's USS Tiger Brand Amertel. Its higher strength means fewer poles, less materials, faster installation, and lower costs. In a heavy loading area you can span up to 200 feet with Amertel 85, 350 feet with Amertel 135, and 600 feet with Amertel 195. Grade for grade, Amertel's voice transmission efficiency is the highest. The physical and electrical characteristics of Amertel 195 give it a transmission efficiency higher than any other galvanized steel telephone wire. Where icing is a problem the greater strength of USS Amertel protects against failure. Amertel will stretch under an ice load but will return to almost its original sag after thawing. The heavy zinc coating on USS Amertel gives greater corrosion resistance and lowers maintenance costs. For your next job, check the advantages of using USS Tiger Brand Amertel. Write American Steel and Wire, Dept. 1423, Rockefeller Building, Cleveland 13, Ohio.

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STANDARD FEATURES

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- Immediate Ringing
- Call Back and Call Transfer
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- Call Waiting and Sequence

OPTIONAL FEATURES

- Code Call
- Conference
- Executive Right-of-Way

Optional Features (continued)

- Group Hunting
- Automatic Transfer
- Tie Lines
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- Automatic Power Failure Transfer
- Direct Key Calling
- Executive Direct Line
- Trunk Traffic Restriction
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- PABX Line Loop Resistance: 1200 ohms including telephone
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Area Code: 212—OXford 7-3600

(Concluded from page 10)

present reproduction cost new, less observed depreciation (RCN) formula for one based equally on RCN and fair value of utility properties.

NEW LAWS ON GAMBLING AND SABOTAGE . . . Two bills tackling problems the telephone business has long faced — illegal transmission of gambling information and sabotage of communications facilities — has been acted into federal law.

GAMBLING: — This law imposes heavy criminal penalties on gamblers who illegally transmit betting information over interstate telephone and other communications facilities. It also requires a common carrier to discontinue or refuse service to gamblers when so notified by a law enforcement agency. In such cases, the rights of carrier and customer alike are safeguarded. The carrier is protected against any liability for complying with a law enforcement agency's request. On the other hand, the carrier must give reasonable notice to the subscriber on the action it proposes to take so that the subscriber may contest the action if he wishes.

SABOTAGE: — Passage of the so-called "anti-sabotage" bill was triggered by the bombing of AT&T Long Lines' facilities in the West last May. The law is designed to deter malicious damage of this or any other kind by imposing stiffer criminal penalties — $10,000 fine, imprisonment up to ten years, or both. The penalties apply to anyone who maliciously injures — or delays transmission over — or otherwise interferes with the use of — any communications facility operated or controlled by the U.S., or used or intended to be used for military or civil defense.

NORTHWESTERN BELL PLANS TRADE OF MINNESOTA EXCHANGE FOR AREA COMPANY . . . In application to FCC, Northwestern Bell Tel. Co. asked approval for proposed trade of its Monticello, Minn., exchange for the Lincoln County Tel. Co., also of Monticello. The latter, which provides service to 365 stations from community dial offices at Harrisburg and Tea, S.D., would pay Northwestern $42,500 in addition to the trade. Upon acquisition by Northwestern subscribers would be offered Sioux Falls service.

Last month, FCC approved an earlier application from Northwestern Bell, which requested authority for the purchase, at a price of $5,800, of the Cavour Tel. Co., Beadle County, S.D., serving 116 subscribers. Northwestern's plans contemplate the provision of completely new modern service to the Cavour area.

GENERAL OF CALIFORNIA TO TAKE OVER OWNERSHIP OF TWX UNITS IN TERRITORY . . . General Tel. Co. of Calif. reported last month that on Jan. 1 it will take over from the Pacific Tel. & Tel. Co. the installation, operation, maintenance, and ownership of all teletypewriter exchange service (TWX) machines and service where the customers' premises are located in General of Calif. territory. General of Calif. said conversion will take place in its territory prior to the scheduled September, 1962, cutover of the TWX network to automatic operation.

HYLAND, RETIRED U.S. CABLE MANAGER OF WESTERN UNION, DEAD AT 76 . . . John R. Hyland, retired U.S. cable manager for Western Union Telegraph Co., died September 4, at Danbury, Conn., Hospital. He was 76. Hyland joined Western Union in 1904 & retired in 1950. He became U.S. cable manager in 1928, & during World War II served as an industry member & consultant to Board of War Communications Committee on Submarine Cables. He acted as advisor or member of U.S. delegations to number of international conferences.

It's easy to see—with U. S. Instrument's all-new Type 30 PABX! Panel lights show which extension is in use...when it's hung up. What's more, a special pushbutton lets extensions hold or transfer calls without flashing operator. ■ New Type 30 PABX is available for up to 100 lines, 10 trunks, 12 connecting links. In coming or outgoing calls do not interfere with these links. And you're sure of service continuity, since emergency circuits automatically cut in, in case of power shortage. Other features: direct dialing . . . restricted service . . . automatic release . . . privileged stations . . . night connections . . . call storage. For details, ask Graybar for Catalog 730A and Catalog P60F5. It's another reason to call Graybar—for everything. Graybar Electric Co., Inc., 420 Lexington Avenue, New York 17, N. Y.

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1600-W: It's SMART . . . it's SMALL . . . it LIGHTS! The PETITE® phone—newest, most glamorous. And from your standpoint, most profitable. Perfect extension for any room; main station, too.

nothing newer—nothing finer than the complete line of Stromberg-Carlson® telephones

1543-W: It's handsome, compact, styled with snap and sparkle. This telephone is engineered for high fidelity of voice transmission, for ruggedness, for true full-range performance. Lightweight handset, of course.

1573-W: (Above) Use it two ways and reap the profits! It provides two-line service plus intercom, with Hold on each line. Or, with a simple adapter, it's a three-line telephone with Hold on each line, without intercom.

1553-W: (Right) The ideal telephone for many, many applications: in kitchen, den, halls, workrooms—just about anywhere in the home. Great for your business subscribers, too—especially where space is a problem. Its slim, trim design gives it tremendous versatility.

1575-W: (Below) This 6-line telephone, used with the Stromberg-Carlson 6K-1 PBX, is the smallest phone of its kind. Flexibility and versatility are unmatched, with an almost infinite variety of services.

Choose from the most complete line of quality telephones in the Independent field! There is nothing newer . . . nothing finer . . . nothing more profitable to you!

Stromberg-Carlson telephones mean satisfied subscribers because of superb transmission and reception quality; graceful styling; full range of smart modern colors.

Contact the Stromberg-Carlson representative in your area. He's the man with the facts, the figures and the selling aids you want.

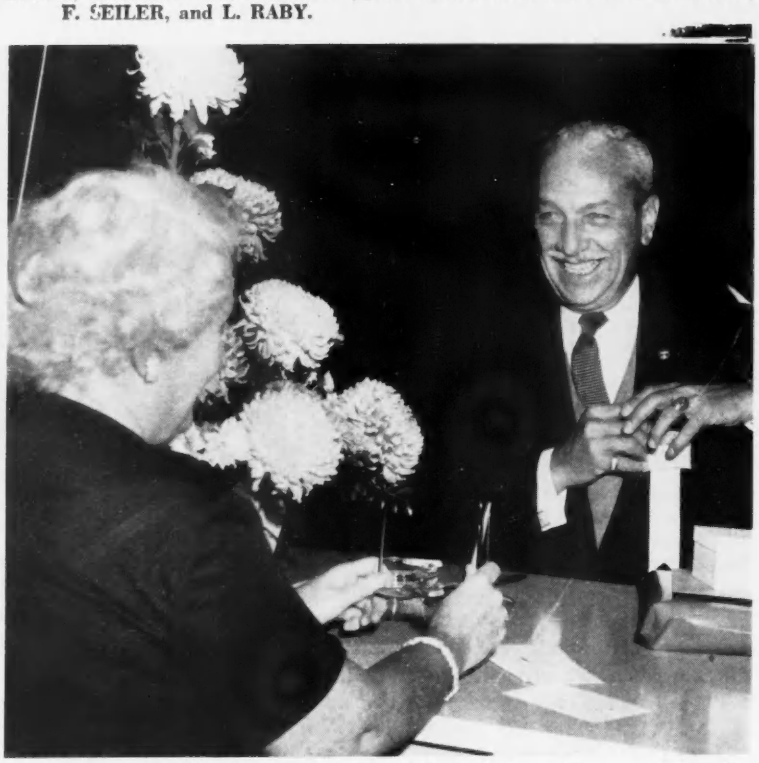
In Atlanta call 875-7467; Chicago: STate 2-4235; Kansas City: HArrison 1-6618; Rochester: HUbbard 2-2200; San Francisco: OXford 7-3630.

GENERAL DYNAMICS | TELECOMMUNICATION

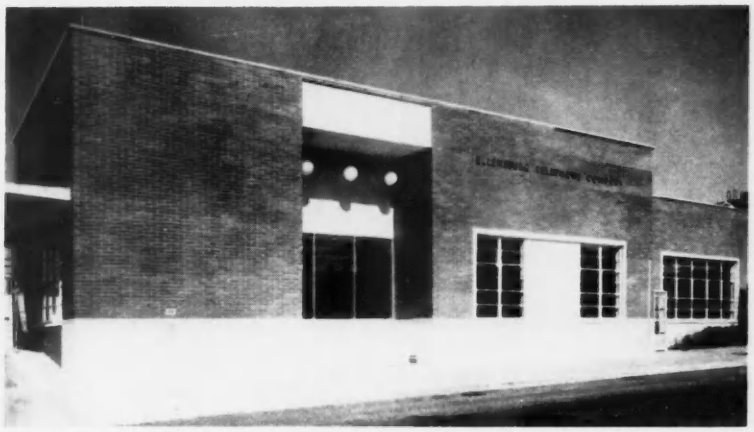
INDUSTRY VIEWS

These 12 members of the telephone industry represented the USITA Traffic Committee and the Bell System August 22-24 at a meeting in the Golden Palace, New York City. They are (clockwise): A. LAMBERT, A. B. WALRATH, W. ALBERTSON, H. KLEINHAMMER, L. BIRCH, D. CHILDERS, E. McWAIN, J. NOGGLE, L. CLEVELAND, W. SHALE, F. SEILER, and L. RABY.

This is an architect's concept of the new Madison, Ohio, exchange building for the Geneva Telephone Company in its five-year $1,850,000 improvement program. The Madison project, largest in the program will cost about $730,000 and provides a new central office and rebuilding of outside plant, eliminating open wire. Exchanges in the company's territory will share these improvements, which eliminate open wire additions to Austinburg and Perry, Ohio, buildings. Other exchanges operated by the company are Geneva-on-the-Lake and Trumbull. Geneva Tel. Co. recently became an affiliate of Mid-Continent Telephone Corporation, Elyria, Ohio. Insignia of the parent firm is shown here on door of company vehicle.

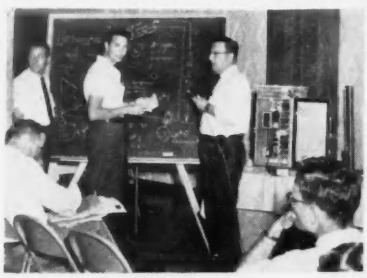


Registering at the 50th Annual Assembly of the Telephone Pioneers of America is BERNEY SIMNER, of St. Louis, Mo. representing Fred MacGougan, president of the ITPA. Simner, vice president of Telephone Systems Division of Acme Visible Records, Inc., is immediate past president and a member of the national board of directors of the ITPA. This Golden Jubilee meeting took place recently at Hotel Statler in Boston, Mass. About 1,700 delegates attended from the United States and Canada.



The Ellensburg Telephone Company of Washington State showed its remodeled, expanded home office at a recent open house. Visitors saw a dial demonstration display that enabled them to call another telephone in the display to see how step-by-step switches completed the call. Shown also were antique phones and the changes through the years up to the latest models. Company personnel presented a color film, "Miracle Across the Miles," illustrating DDD and how it works. There were refreshments and prizes offered in the air-conditioned exchange which has a drive-in pay window and a phone-from-car paystation in front of the building. Above, R. E. RUDOLPH (left) president of Ellensburg Telephone Co., and G. F. KACHLEIN, commercial representative, wait in front of historical display to greet visitors. Also above is the building housing the company, of which the local newspaper said, ". . . the plant has grown to be without doubt one of the most modern of any non-metropolitan city in America . . . It is one of the outstanding examples of a public utility, owned in the home town, setting the pace for everywhere."

MISS MARJORIE JONES, security analyst at White Weld & Co., New York, N.Y., addressed the Accounting Conference of the United States Independent Telephone Association at the association's 64th annual meeting at the Conrad Hilton Hotel, Chicago. Miss Jones' subject: "A Security Analyst Looks at a Telephone Company."



CHUCK WILLIAMS, center, United Tel. Co. of the West, goes over chalk talk by BILL RILEY and BOB WOHLBERG, instructors, at Stromberg-Carlson Carrier school.

Giant greeting to Illinois Bell Telephone Company's Half-Century Club is extended by MRS. JOANNE CEROTZKE (left) and WILLIAM V. KAHLER (right), Illinois Bell president, to five new members recently at a luncheon in Chicago. New members between Mrs. Cerotzke and Mr. Kahler are (l to r): JOHN SLAGTER, CHARLES H.W. GROTE, FRANK P. NOVAK, MERVYN J. TOCK, MRS. MARY MORONEY. At least 21 of the company's 32 Half-Century Club members attended the luncheon in their honor.

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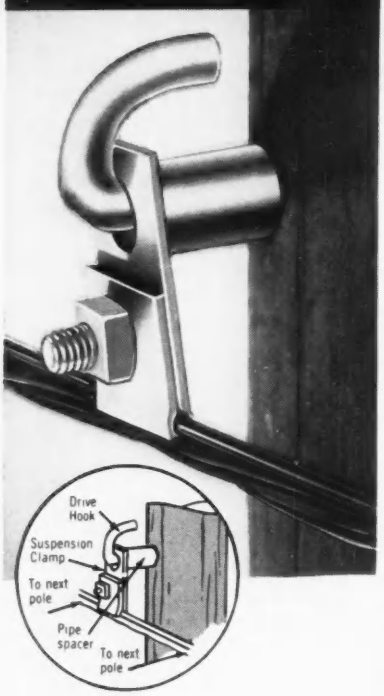

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INDUSTRY OBSERVATIONS

By L. A. GRITTEN

In a Shrinking World

SPACE SATELLITE communication is the most spectacular advance since Alexander Bell spilled the acid on his trousers and yelled for Mr. Watson. Yet this type of communication is still an experiment whose ultimate success is not certain. Closer to us, and possibly more important, is overseas dialing.

In the June *Bell Laboratories Record* Oscar Meyers and Carl A. Dahlbom discuss "Overseas Dialing: a Step Toward Worldwide Telephony."

As a first step, by 1963 New York operators should be able to dial direct to London, and vice versa. The objective is worldwide DDD.

Complications are formidable, almost appalling. In Europe nearly every country has developed its own approach to switching, signaling and transmission problems. Seven major countries use five different lettering and numbering schemes on their dials.

The worldwide DDD objective has a happy political significance. The authors of this fascinating article conclude: ". . . the only real barrier between nations is their inability to understand one another . . . the ultimate refinement in communications is not merely of the future, but will help to shape it."

Supersedure Headaches

RECENTLY IN OLYMPIA, Wash., Markel, Inc. acquired two hotels. Their predecessor owed $2,500 for telephone service. In line with established practice, Pacific Northwest Bell Telephone Company insisted the new owners should assume the indebtedness. Otherwise the telephone numbers would be changed.

Markel, Inc. agreed to pay off the account at $100 a month. But after paying $800 Markel took the case to the Washington Utilities & Transportation Commission, contending the agreement Markel, Inc. had signed was illegal in that it constituted a discriminatory rate for the service, in contravention of the company's tariffs. The commission decided in favor of Pacific and dismissed the complaint.

The right of an operating telephone company to say to the new owners of a business "Pay the telephone bill or take a new number" is seldom questioned in these lush times. But at the first whiff of another depression, these supersedure cases will flourish like dandelions.

In the 1930-40 decade they were a headache to every manager in the business. Often enough, a nominal change in business ownership was merely a device to repudiate business debts.

This is a good time to examine your tariff filings and make certain your provisions regarding supersedure are ironclad.

Only in America

AS ALWAYS, the United States Independent Telephone Association convention in Chicago was a big affair, ably handled, a Mecca for every Independent and a fitting climax to another year of splendid service.

The registration list included most of the important names in Independent telephone communication. But equally important, in a very different way, are those eligible and invited to attend, who weren't there. We refer to owner-managers of small companies.

There are perhaps 3,000 of them.

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new built-for-business features from the traditional resale leader*

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*Based on prices in the National Automobile Dealers Association USED CAR GUIDE, recent-model Chevrolets are now bringing a higher percentage of their original price than any other full-sized car in their field.

Here are all the fleet car advantages you've come to expect from Chevrolet—plus new refinements that promise even higher return at trade-in time.* Who else in Chevrolet's field, for instance, gives you the trip-shortening comfort of Full Coil cushioning at each wheel, aided and abetted by more than 700 sound and vibration filters? Or a whopping deep-well trunk (with bumper-level loading) that lets you take on odd-shaped samples and paraphernalia you used to have to leave behind? And more, much more: oversized, wide-opening doors designed with big six-footers in mind. Roomy new Body by Fisher interiors. Standard Hi-Thrift 235 Six and Turbo-Fire 283 V8 triggered to do special things with regular gas. And, for extra long-term protection of your fleet investment, new steel front fender underskirts help put a stop to rust. *Even the mufflers are longer lived this year to help cut maintenance cost.* It will pay you to check out all the dollar-saving details at your Chevrolet dealer's first chance you get. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

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SPECIAL CHRISTMAS BONUS

Telephone Engineer & Management will send a free copy of the new "TELEPHONE HANDBOOK FOR PLANTMEN & MANAGERS with each gift subscription ordered through December 15, 1961.

They are a dwindling group. In a few years they may have lost their identities. The little companies they have developed may be pawns in the array of a few great corporations, or are lost in the maw of a state-owned system. We fervently hope that will not happen — but the trend is ominous.

With few exceptions, their counterpart is not to be found in any other country. In this era of bigness triumphant, when a corporation payroll is usually our only hope for employment and the only channel for ambition, these men have retained their business individuality. They cling to the American Way in a sense we have almost forgotten.

By miracles of resource and cooperation, with few dollars but a wealth of courage, they have contrived to retain their part in a vast, complex, worldwide communications system. When they go, something America can ill afford to lose will go with them. May the day be far distant!

If This Be Monopoly . . .

THE DRAGON *Monopoly* again rears its terrible head and St. George (better known to us as Drew Pearson) rides forth to destroy it. On second thought, perhaps Don Quixote and the windmill would make a better analogy.

Pearson, in his "Merry-Go-Round" column, tilts at the Kennedy administration for having "decided to give a monopoly for worldwide satellite communication to the No. 1 Monopolist of the U.S.A., the American Telephone & Telegraph Company."

As things look from here, no monopoly in satellite communication is likely or even possible. In any case the "No. 1 Monopolist" description is a slur that reflects on every telephone company, Independent or Bell. No utility, regulated as are AT&T and the operating telephone companies, can fairly be called a monopoly in the sense of having exclusive control.

Even were Drew Pearson's epithet valid, then what? If any American wishes to glorify some great national triumph, if he wishes to boast, without fear of rebuttal, about something fine, great and good for the world that has resulted essentially from American brains and energy, and not from the fortuitous benefits of our environment, which will he select?

In that category, no other American achievement can approach our system of telecommunications. And this has been mainly the work of the A.T. & T. By any name, under any sort of political control, any nation on earth would like to have what the Bell System and the Independents have done for this country. We may well answer these "monopoly" accusations by paraphrasing Patrick Henry: "If this be monopoly, make the most of it."

Gastronomic Hints

UNIVERSITY OF MICHIGAN's James V. McConnell, psychologist and biochemist, feeds thousands of planarians to other planarians, and studies the results. (They are flat worms, about an inch long.) Some are trained to respond in certain ways to certain shocks.

Thousands of these cannibalistic experiments have proved the acquired characteristics and behavioral responses of the *trained* planarians are passed on to those *untrained* planarians who eat them. Dr. McConnell apparently has no doubt about the conclusion to be drawn. Unequivocally he says: "You are what you eat."

This may explain why the Haidas of British Columbia became the boldest and most intelligent of the Pacific Coast Indians. Until the Canadians interfered with their habits a few decades ago, they ate the best and bravest of their enemies, whenever they got the chance.

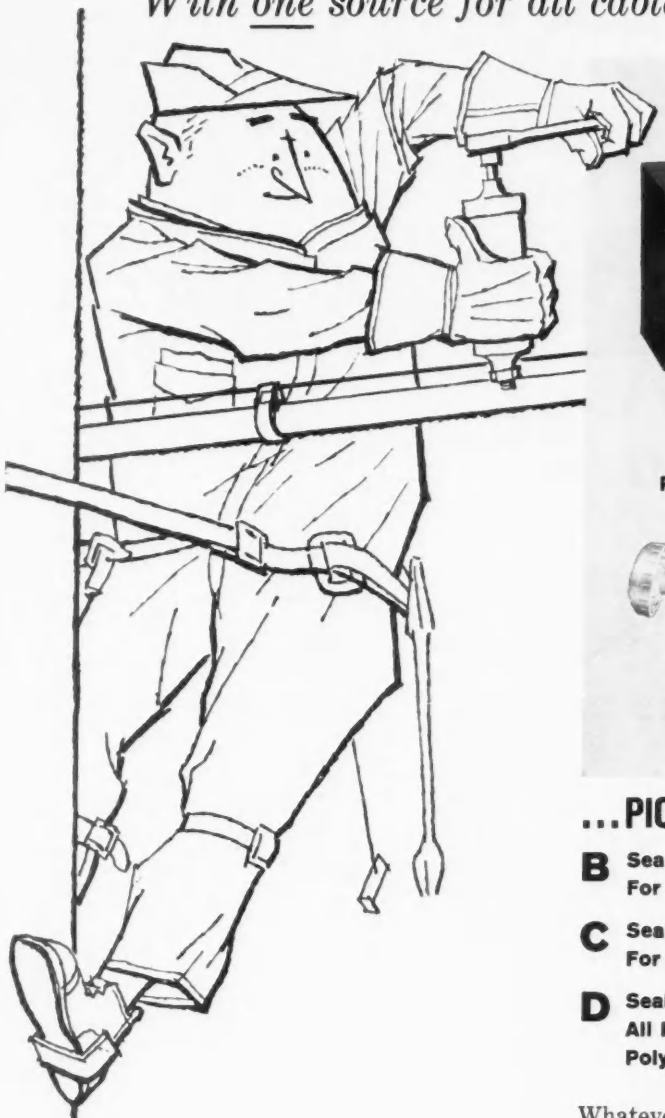
Advice to aspiring young telephone men: Aim High! Don't bother to marry the boss' daughter. It is better to eat your boss.

Never lose an opportunity to devour your chairman of the board, or your chief engineer. A rib roast of comptroller is effective. We can guarantee favorable results from a saute of Bell Laboratory scientists or a tasty fricassee of G.T.&E. directors.

With GMPCo *it's easy as B, C, D,*

PICK THE PLUG AND THE PACKAGE

With <u>one</u> source for all cable sealing compounds

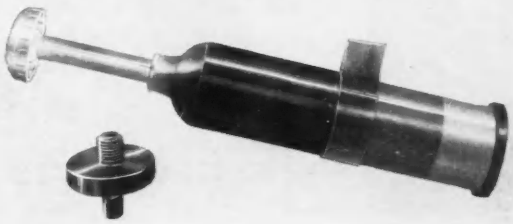


PICK THE PACKAGE...

Packaged in Can with Activator,

OR...

Prepackaged in disposable plastic Semkit.
Nozzle available for Semkit.



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Ask your Chance Supplier, contact the Chance Servi-Center, or write direct to:

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50 YEARS AGO IN T E & M

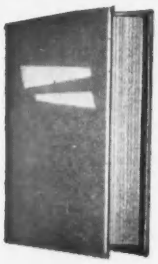
■ Sarah Elizabeth Brown told her readers "*Wall Street must become orderly, and it is having a regular monkey and parrot time of it while the country sits back and looks on. I cannot refrain from hinting that the telephone business is built on orderly lines. You can't serve the public with anything that offers confusion. In serving the public, our present systems are keeping pace with the development of the art, and the public appreciates that we are avoiding disorder.*"

■ The pioneers in the introduction of the telephone in America held a reunion — the first assemblage of its kind — in Boston, November 2, 3 and 4. Alexander Graham Bell presided at the sessions. Among the other veterans present at the reunion was Charles J. Glidden of Boston who claimed the distinction of having obtained, at Lowell, Mass., the first telephone subscriber.

■ In St. Louis members of the town's social "400" complained that whenever they called one of their group, their conversation was usually interrupted "*by a tradesman or some other plebian using the same line.*" The Bell company solved the problem by establishing an exchange in the exclusive area west of Clara Avenue so there would be "*no danger of the elite getting mixed up with those who don't belong . . .*"

■ Telephone linemen operating out of Port Townsend, Wash., adopted a bright, red uniform as a protection from amateur hunters "*who are likely to shoot in the direction of the first thing they see moving.*"

Solve electronic control circuit problems fast!



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Advances in the field are thoroughly covered to show the present state of the art of circuitry in such areas as alarm circuits, audio control circuits, computer control circuits, machine control circuits, magnetic amplifier circuits, nucleonic circuits, process control circuits, servo-mechanism circuits, & switching circuits.

Just Published — **Handbook of**

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In the fact-packed pages of this handy reference you'll find a ready source of information about the circuits you need for any electronic control application. It contains all types of circuits — from counting to welding control, both simple and advanced.

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AIDED by this engineer's guide to practical statistics you can more fully analyze processing, research and other kinds of industrial data. In plain terms it tells you how to apply statistical methods to engineering problems . . . how to correlate data . . . and how to treat experimental factors. Especially helpful, this easy-to-use book explains the technique of drawing the "best" line through data, and of accurately analyzing the variance. And—to round out your working knowledge of statistics—it gives you essential information on probability, theory and frequency distributions. When you have a specific problem in statistical analysis, turn to the clear guidance, detailed examples, and more than 180 quick-reference tables in these pages.

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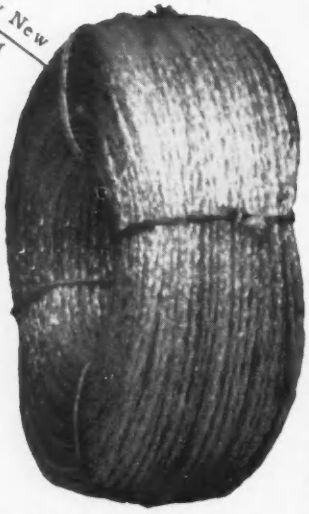

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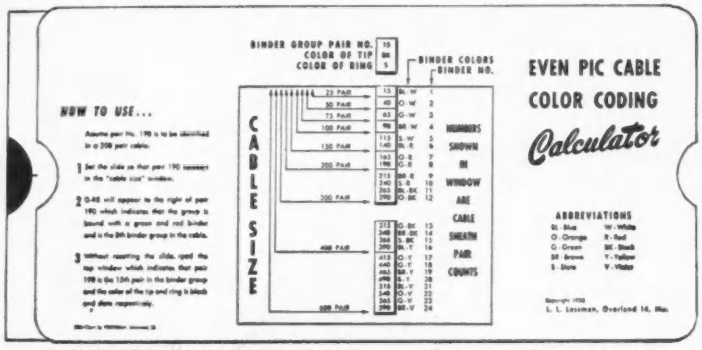
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ABBREVIATIONS

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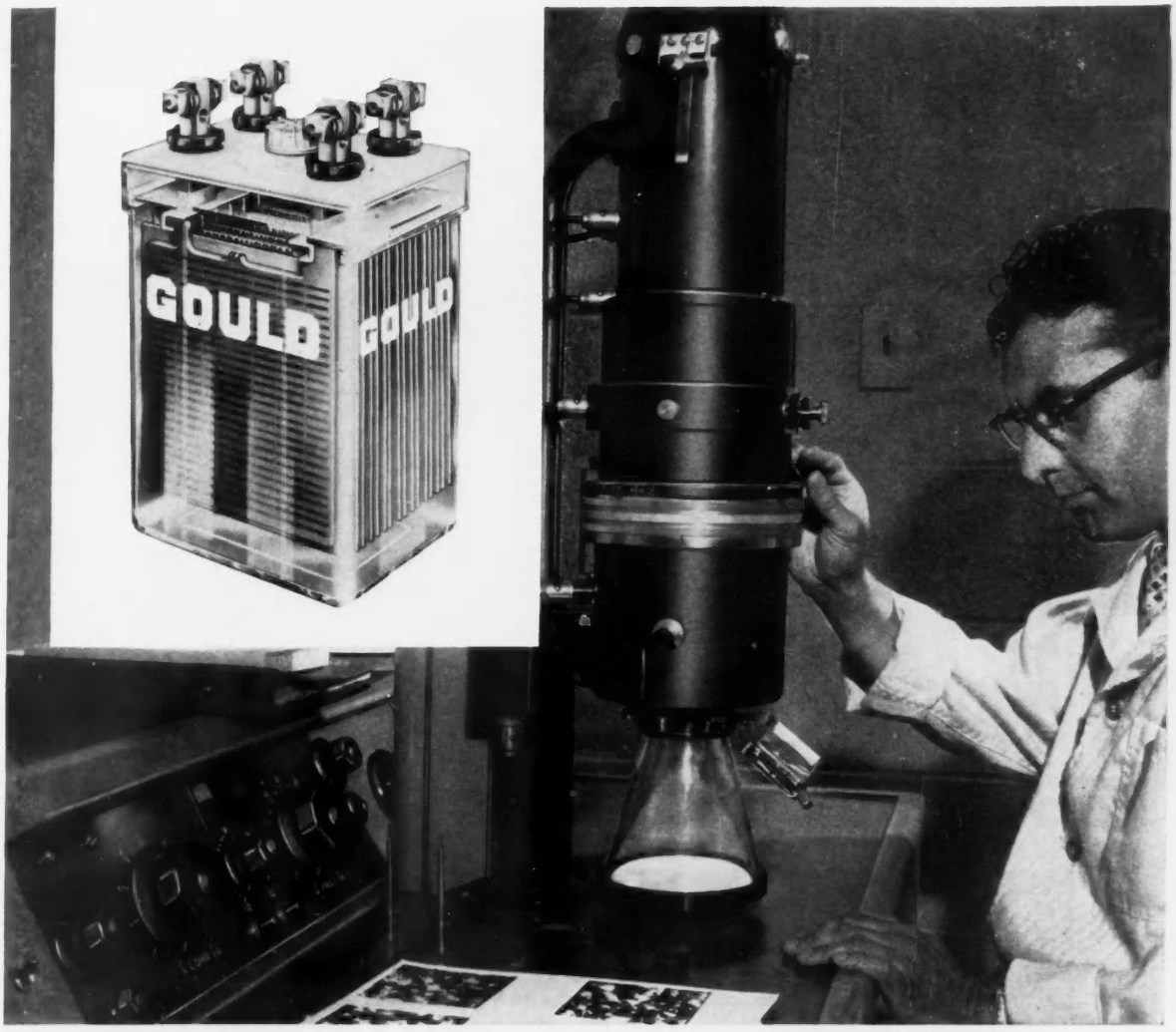
"The federal government is, among other things, the largest electric power producer in the country, the largest insurer, the largest lender and the largest borrower, the largest landlord and the largest tenant, the largest holder of grazing land, the largest holder of timber land, the largest owner of grain, the largest warehouse operator, the largest ship owner, and the largest truck fleet operator. For a nation which is the world's principal exponent of private enterprise and individual initiative, this is a rather amazing list."—*Plano (Ill.) County News.*

Not a Dirty Word

"In a recent address in Chicago, John G. Tower, history's first popularly elected Republican senator from Texas or any other former confederate state, has something to say that should be repeated often.

"Said Tower: 'Capitalism is not a dirty word . . . The men who built the railroads and banks and insurance companies and industries that have made the American people the most productive, the most comfortable, the most resourceful and most reliable in the world were not do-gooders. They were capitalists.'" *Beaver Falls (Pa.) News-Tribune.*



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It is just one of many precision instruments that assure you of the highest quality in Gould industrial batteries. And these same extensive research and testing facilities mean that you can continue to expect new battery improvements, designed and engineered to meet tomorrow's most exacting power requirements.

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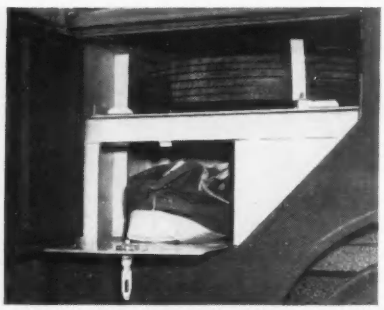
HOLAN'S HU-76 Telephone Installers' Body

In addition to the double-doored rear entry to spacious drawers and shelves, the right side compartment contains a saw rack, extra coil of wire for PR reel, drawer for inside wire and a tool bag/spec book shelf.



Spare tire and personal equipment shelves are stored in the left side compartment. Personal equipment bin can be locked separately.

Is a Low, Lightweight "Curbside Cupboard"

Any way you look at it — or out of it — Holan's new HU-76 Telephone Installers' Body is a "curbside cupboard" that speeds the work of the installer, repairman or troubleman.

The low silhouette (only 35" high) permits unrestricted rear vision for safety and maneuverability.

Compartmentation design of the HU-76 puts tools and supplies where they are accessible — the rear and curbside for safe and efficient use.

Long-lasting Hi-Tensile Steel . . . and a roof of fiberglass reinforced plastic . . . cut total body weight to 740 pounds, thus longer tire wear, chassis life and greater fuel economy reduce operating and maintenance costs.

Call or write Holan Corporation of Georgia, Everee Inn Road, Griffin, Georgia, for more information about this low silhouette, lightweight, money-saving body.

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TE&M Camera photographed this group of USITA conventioners in lobby of Chicago's Conrad Hilton Hotel.

H. E. HAUSCHILD (left), Burlingame, Calif., meets with Mr. and Mrs. A. H. KROON, of Northlake, Illinois.

Traffic Problems and Methods In Making a Separation Study

By R. E. PAULSEN

Traffic Supervisor,
Southwestern States Tel. Co.,
Brownwood, Tex.

It is the Traffic Department's responsibility to develop traffic factors which, when applied to investment and expenses, will show the dollar value of equipment use, or expenses incurred handling Bell-Independent traffic.

THE PURPOSE of a separation study is to determine an Independent company's costs for handling a particular class of traffic. We'll discuss separating costs of traffic interchanged with the Bell System, although the same procedures would apply if we separated exchange or Independent toll costs.

It's Traffic's responsibility to develop traffic factors which, when applied to investment and expenses, show the amount of dollars of equipment used or expenses incurred in handling of this Bell-Independent traffic.

The importance of this responsibility can be expressed effectively by obtaining total dollars of investment or expenses of your company, then determining what per cent have traffic factors applied to them.

Under a normal operation, upwards of 90 per cent of investment and more than 75 per cent of expenses would be separated on the basis of traffic studies.

The B-I portion of costs is segregated between three functions titled "A," "B" and "C." All Independent companies perform the "A" function; many companies perform some and frequently all of the "B" function; and some companies provide inter-exchange circuit facilities for B-I toll traffic, designated as the "C" function.

The "A" function covers the use of local Plant facilities and Traffic, Commercial, Accounting and General Office operations with the origination and termination of B-I toll traffic. The primary traffic factors for separating "A" function costs are developed from *usage* studies.

The "B" function covers toll operating and switching, such as timing and ticketing and toll switching plant and associated functions relating to B-I toll traffic. Unit studies develop primary traffic factors for separating "B" function costs.

The "C" function, line haul, covers the use of Independent company inter-exchange circuit facilities for B-I toll traffic. Traffic factors for separating "C" function costs are developed from *message-minute-mile* studies.

Separation studies are normally made for a 12-month period. Traffic data, such as minutes of use, units of work or message-minutes-miles aren't available on an annual basis in the same manner as certain

other information, such as expenses.

For us to develop annual data, it's necessary to make studies of representative periods — observation periods. These range from two to five days for usage and unit studies, and up to 10 days for a line-haul study. *Select observation periods truely representative of the* 12*-month study period.*

Local or toll calls, or both, are involved in all three types of studies. Volumes of these calls don't necessarily determine a representative period. The important factors to be considered will vary, depending on the type of study made.

Usage Studies

LET'S TAKE a closer look at usage studies — holding-time studies. These are made in exchanges, manual or dial, to determine primary traffic factors for separating "A" function costs. The important consideration is selecting a period when the holding time per message, Independent toll or B-I toll, and the holding time per local call is representative of the annual period.

Volume of messages doesn't necessarily indicate whether a period is representative. It's possible to have a normal volume of messages, but due to the particular time of the year the holding time per call is out of proportion to the annual period.

At the beginning of school in the fall the holding time per local call may be higher than usual, although the toll holding times are representative. Conversely, an office may have periods of the year where the toll holding time is abnormally high; the local holding time may be representative.

I wouldn't try to recommend particular periods of the year for your offices that would be representative, as I'm in no position to do so.

The important consideration is the holding time per call. Calling habits vary with different exchanges. Intimate knowledge of local and toll calling habits is the best source of information for selecting an observation period.

It's the practice in some of the larger Independent companies to group certain exchanges together for study purposes. If a company had 10 exchanges of similar size and with similar traffic characteristics, usage studies would be made in two or three exchanges to develop holding times per call. These holding times then would be applied to annual volumes of calls for all 10 exchanges to develop the necessary data.

This method, if agreed on with representatives of the associated Bell company, would reduce the number of studies to be made. It's a practical, sound approach to separations. The key to this method is selection of exchanges representative of the entire group.

Some offices are easier to study than others due to equipment arrangements. There may be other considerations affecting your selection of studied exchanges. An exchange may be a greater distance from the general office and due to location, transportation problems may be greater than for another exchange.

Perhaps living accommodations are not satisfactory for the person to make the study.

Give such conditions minimum consideration. Unless the exchanges you select have traffic characteristics representative of the entire group, you may cause your company to lose revenues amounting to many times the inconveniences of studying particular exchanges.

There is a primary difference in making usage studies, compared to unit or line-haul studies. In unit and line-haul studies we count various classifications of traffic separately and arrive at the total by adding these components. In usage studies we study the total traffic, and subtract the portion of traffic to be separated. This characteristic of usage studies warrants special consideration.

When studying the various classes of traffic to develop separation factors based on traffic units, we study each class of traffic by itself. An example is all classes of traffic considered local, whether information, dial assistance or manual. We also study toll traffic on an individual basis and classify it as Independent, B-I State or B-I Interstate. The total units for an office are developed by adding the units for the various classes of traffic.

Toll Usage Count

IT'S NOT possible to use the same procedure when making usage studies. When studying originating traffic at the first selectors, or terminating traffic at the connectors, there's no practical way to determine whether the call is a local call or a toll call. As a result, these studies are used to determine the total office traffic. Another study of trunks carrying toll traffic is made to determine the toll portion of the total.

It's important that the count of toll usage be accurate and complete. If some portion of the toll traffic is omitted, the traffic factors will be affected by showing an increase in exchange usage and a decrease in toll usage, compared to actual conditions.

If the omitted toll usage is B-I, it will result in a loss of toll revenue properly due your company from the Bell System. A thorough review of all trunking diagrams should be made prior to any usage study, to avoid the omission of toll traffic.

I have purposely omitted any discussion of the details involved in making usage studies since the *USITA Separations Manual* adequately covers this subject.

Unit Studies

UNIT STUDIES are made in all exchanges having telephone operators who do some or all of the work on B-I toll calls. The primary use of traffic factors developed from unit studies is to determine "B" function costs. Studies are made of all units of work performed by the operators. The study initially is made of the various classes of calls handled, and the units are developed by applying proper coefficients to the calls.

The coefficients generally used are those developed

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Over 3,300 industry members attended USITA's annual meeting.

Problems of Joint-Use Contracts

By P. M. FERGUSON, Jr.

Mankato Citizens Tel. Co.,
Mankato, Minn.

The joint-use contract problem will not improve by itself. It is not a nightmare that disappears with the coming of day.

IT MAY surprise you to learn that joint construction of power and communication pole lines began about 1880. I imagine the reasons for joint construction in those early days of both types of utilities were much the same as they are today: Economy of joint construction, public convenience, necessity, and, in some instances because there was no alternative. Note the initial practice superceded the development of telephone cable which came into being in the 1890's.

Joint construction or joint use has gradually increased to the point where it is now an accepted and common practice. In fact, the development of suburban residential areas with the accompanying landscaping and beautification has in many cases dictated joint construction, as the private home-owner loathes two sets of poles whether they are on the street or an alley or utility easement.

While joint-use construction began in the 1880's, it was not until 1926 that a guide book was established for this practice. That year the Joint General Committee of the National Electric Light Association and the Bell System published a report concerning "Principles and Practices for the Joint Use of Wood Poles by Supply and Communication Companies." This report was republished without change by the Joint General Committee of the Edison Electric Institute and the Bell System in 1945. These "principles and practices" have formed the basis for negotiating general joint-use arrangements between power and telephone companies, Bell and Independent, for the past 35 years.

My company's contract, negotiated in 1927, was based on this report. With about 6,000 Independent companies in the late 1920's scattered all over our country and without the benefit of a strong USITA as we know it today, there were many Independent companies that either ran the risk of contacting power poles without formal contracts, or avoided joint-use construction entirely even though in some cases joint construction was more economical.

The Plant Committee of USITA long ago recognized the problems of joint construction and in the late 1940's, the Plant Committee studied the various types of contracts covering the joint use of poles by power and telephone utilities. The committee submitted to the board of directors of USITA on May 14, 1951, proposed forms of contracts for these types of joint use: (1) Between a telephone company and a municipally owned power system; (2) between a telephone company and an electric power cooperative; and (3) between a telephone company and a large privately owned electric power company.

The committee's recommended contracts followed

closely the accepted forms in use by the industry at the time, and, as stated, were merely guides for Independent telephone utilities to study and follow if they desired.

While joint construction has been in effect almost 80 years and the general forms of contracts have been in use 30 or 40 years, there has been a pronounced change in the physical aspects of joint construction. I am referring to the greater use of cable by telephone companies for urban and rural circuits.

Our industry is using more and more cable. And with the adoption of plastic and aluminum sheathed cables which reduces the weight of cable per foot, and using lashing methods, we are making one messenger support more than one cable. This has materially reduced space requirements of telephone circuits on joint-use poles. On the other hand, the greatly expanded use of electricity in urban areas has increased the space requirements of the power utilities and has also increased the height and strength requirement of poles for their use.

The greatly expanded use of home appliances (I believe power utility advertisements say the average home now has some 40 electric motors in it), home air-conditioning, and now home heating is increasing the kilowatt consumption by leaps and bounds. To adequately take care of this increased demand for electricity, the power companies have to install additional primary circuits or step up the voltage of the primary feeders.

In our city, the power company has now almost standardized on 13,000-volt, three-phase, Y-connected, 4-wire primary circuits, and has almost completed the replacement of the former 4,000-volt primary system. This practice is being followed system-wide by this company which is the largest power utility in Minnesota and serves parts of Wisconsin, and North and South Dakota as well. Undoubtedly, other power companies are doing the same thing.

New Problems

THE USE of higher voltage primaries by the power companies imposes additional problems for the telephone companies. The problem of inductive interference becomes greater with a three-fold increase in primary voltage so the shielding of telephone circuits must be better. Clearances between power and communication circuits must be observed much more strictly, and greater care must be used by telephone construction crews in doing any work on joint-use poles. With the greater voltage, the power companies will use larger transformers, larger conductors, and heavier hardware which means a stronger class pole. This is where the telephone company's pocketbook gets hit hard.

In the smaller telephone company, it can mean a one-way contract where the telephone company contacts the power poles and not vice versa, or no joint use at all, and the possibility of public relations problems. In this area, it should be mentioned that in most of the new residential areas — because of the need for electricity for power tools by the craftsman during the construction of new homes — the power line construction is needed and completed long before there is a substantial demand or need for telephone circuits.

Unless there is a joint-use agreement between the two types of utilities which establishes the amount of poles each should set, a telephone company can be on the outside looking in. Once the new home-owner takes possession, the problem of setting another set of poles just for telephone service can be a nightmare.

Negotiation of the Joint-Use Contract

THIS leads up to the negotiation of the joint-use contract on a fair basis for both parties. In the early days of joint construction, telephone companies used more open-wire construction involving one or several crossarms of wire and maybe a cable attachment. The power company had one crossarm of primary circuits and maybe a secondary rack, or maybe just a primary circuit or just a secondary circuit. With such construction the telephone companies did use possibly as much space on joint poles as did the power companies, but the construction practices of both utilities have changed.

Recognizing that the space requirements were equal, in the early days joint-use contracts were negotiated on a 50-50 basis where the payments by the company renting space were the same for each utility. With the change in space requirements, and no change in our needs for heavier and more expensive poles, the telephone industry for the past decade has felt the power utilities should bear a proportionately greater share of the cost of joint-pole construction.

Before getting into arguments pro and con for the differential type of joint-use contract, consider the various contract approaches to negotiating what our industry believes is fair for both types of utilities. First, in any form of agreement there is usually defined a *normal* joint pole. A *normal* joint pole is one large enough and with sufficient height to carry all conductors of both companies, provide proper clearance between each company's wires, and provide proper clearance above ground, over alleys, streets, and highways or railroad tracks.

Another item often found in these contracts is a definite allocation of so many feet or inches of the pole for each company's use. Now the various forms of joint-use agreements is usually patterned on one of these forms: Joint Ownership, Permanent Rights, Flat Rental, Attachment Rental, or Miscellaneous and No Agreement. The basic concepts of each form are outlined:

(1) *The Joint Ownership* form of agreement is one in which each of the jointly used poles is owned jointly by the power and telephone companies concerned, and each company takes title to its proportionate ownership. In general, under such forms of agreement, each company assumes ownership and takes title on the basis

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The Changing Traffic Department

By R. K. GHORMLEY
Lincoln Tel. & Tel. Co.,
Lincoln, Neb.

In the days ahead Traffic must (1) continually revamp operating procedures to fit the changing picture; (2) be sensitive of new services offered to the public; and (3) review and change, as required, the old stand-by routines.

WHAT a wonderful industry in which we work! Look what's been happening in the last 20 years! In the U.S.A. the number of telephones has grown from 21,928,000 in 1940 to 43,004,000 in 1950, on to a magnificent total in 1960 of 74,300,000! That's an increase of well over three times in two decades!

What's more, the density of telephones in this country has been on the increase. Back in 1940 there were 16.8 telephones for every 100 people in the U.S.A. By the end of 1960 that figure of 16.8 had grown to 40.8 telephones for every 100 folks! A splendid explosion!

If figures mean anything — and I think they do — the telephone business has surely been strutting its stuff and busting its buttons!

And what's been happening to the people that have the job of providing all this service? Have they had a few problems? Have they found it necessary to make a few changes from time to time? Have they wondered, "Which way is up?" on occasion? And can they now sit back and take it easy over a fight well fought and a battle won? Yes, Yes, Yes, and No!

There's certainly no doubt that operating telephone companies have had their hands full. Each segment of the operating team has been hard pressed. For these remarks to you, I'm going to narrow the field down to only a part of that operating team — the Traffic Department.

We'll not spend much time over the "battle won." Instead, let's look together at what's up ahead for Traffic people. As they say on TV, "It's what's up front that counts!"

One of the continuing requirements ahead of you in Traffic will be a constant review and revamping of operating methods. You have done splendidly in the past. Can you do even better? You will want to be constantly alert to catch the change that means better service or lower operating costs — or maybe both at the same time.

I'm not sure you've always been as alert to this as you might have been! For instance, would you agree that you held on to the sacred method of completing TX, or delayed, calls entirely too long? Were you guilty of thinking more about a high "per cent completed" index than about giving the calling subscriber the fastest service? Do I unjustly accuse you?

Maybe so, for you did see a need for a change and made it. The Oregon Plan ranks as the type of action you have taken in the past that you must be ready to take in the future. Don't let subservience to an index, or to custom, or to uniform practices blind you to a better way of doing it.

New Basic Services

YOU Traffic folks will feel the effects of new basic services offered to the public. You must be sensitive to these demands and constantly up-date your thinking. You may even have to try to outguess the future.

What will be the impact on you of WATS, PPCS DDD, MTWX, data transmission, whatever comes after mark sensing, personal signaling, wide-area information, ANC, and a few more neither of us knows about now? In your spare time you could well be kicking some of these around. Not all of these will affect you. I would be surprised if there is anyone here who is not to be touched by at least one of them.

And do you realize that with few exceptions, these are services or methods practically unheard of just 10 years ago? You must be on your toes — not just to answer a question in case someone asks, but to take the initiative where it reasonably falls in your jurisdiction.

For example, whose job do you visualize it to be to know about data transmission? That sounds messy enough — It must rightly belong to the engineers! Not so! (Or at least not entirely so.)

Wasn't it the Traffic Department who went to the subscriber with the new PBX board? And you patiently explained which cord to plug in where? And what was the purpose of the battery cut-off key? And how to put up the night connections? Yes, you did (and do) those things.

Isn't it also your job to go to the subscriber and help him out with his new gadgetry that hooks his business machine into his telephone and transmits

data? The business machine people will tell your customers something about it. You'd better know too.

If your telephone customer wants to know about some mystical device associated with his telephone, you don't want to be embarrassed by pleading ignorance! This might even require your boning up on business methods!

How about WATS? Are you digesting enough of what this service concept is all about that you can talk intelligently with your Commercial folks? Which of your customers is a candidate? Got any ideas? And how would you propose to go about giving such service next month if need be? Would you have training problems?

Maybe your company doesn't have a single prospect for WATS service? If so, do you have a scheme in mind to keep tab on the situation? Are you ready to prod when the time is ripe?

It may not be your primary responsibility in your particular company to be attentive to new services. Maybe yours is only a small share. Whatever the proportion, you must keep abreast of the field and ready and pushing to help your company realize the full advantages of new services.

Traffic Engineering

SO FAR, we've touched on new procedures and new services. How about a new slant to old ways of doing things? I think you may have some of that as a part of your changing responsibilities. How about that old-hat item of traffic engineering?

Traffic engineering in your company may be almost nonexistent. Or it may be a large effort, depending on the size of your company.

Historically, the Traffic Department has usually been responsible for seeing there is enough equipment to meet service demands. Not many years ago this amounted to seeing enough girls were on the switchboard to keep the lights put out. This was true for local and toll.

Along came local dial service. Many companies installed intertoll switch trains. And what was the effect on Traffic responsibilities? They were still there. I suspect that often they have been overlooked.

Did the installation of an intertoll switch train relieve the Traffic people of the need for a continuing check as to adequacy of switching equipment? How many installations have been neglected until complaints of overflows prompted a look at switch quantities?

You say you're not guilty of these oversights? Fine! Then how about the future? Do you have something in mind to improve the way you are keeping tab on traffic?

Don't be satisfied with *methods as usual*. There must be a better way to do that job. If you are still doing it the same way you did it five years ago, you are probably wrong!

If you are making that check manually, then you probably should be using a machine to do the job. You say you already have a machine making traffic measurements? Does it do a complete job? Are the data in the most usable form? Have you recently looked at the whole procedure with a cold eye intent on weeding out useless information, and planting needed information?

The degree to which a company will mechanize its traffic reading program will largely be influenced by its size and complexity. Regardless of size, it must know as accurately as possible that it is investing in the right amount and types of equipment. It can only know by intelligently measuring the traffic.

Traffic people can no longer know this answer by looking to see if the lights are standing. You *must* up-date your methods to keep pace with the quickened technical pace. And in most cases this throws out manual methods.

To new procedures and services we've added new approaches to traffic measurements. Now let's take a look at how your responsibilities may change in your dealings with other departments in your company.

A Complex Business

IN TIMES past your dealings with the Commercial, Accounting, and Plant (and Engineering) Departments have been clear cut. There was not much overlapping in types of work. Each knew his own area. Now our business is more complex. Many lines separating departmental functions have broadened.

Toll tickets used to be rated by the Traffic Department in many companies. Along came mark sensing. With it the rating chore passed from Traffic into Accounting (unless it had indeed already been moved).

The act of going to mark sensing of toll tickets has required much closer working between Traffic and Accounting. And here I ask a question to those of you now mark sensing: Did it go smooth as silk? Or did you remember there were others who would be affected and fully tell them what you were up to?

How about Plant or Engineering? Did you give them enough warning so they could get the new ticket pockets installed in time? Did you alert the Commercial Department, so they could make necessary plans?

Will there be more of this close planning required up ahead? Definitely! This will be a two-way street. You have the right to expect other departments to be alert in providing you information as well. As the business becomes increasingly complex and varied, so will lines separating departments become increasingly vague.

Whose responsibility is it, for example, to begin the use of a QZ Plan? (For benefit of a Plant man who's wandered in the wrong door, the QZ Plan is a scheme which gives fictitious billing numbers to meet the needs of a subscriber.)

The Commercial Department is interested from a marketing standpoint. The Traffic Department develops procedures. The Accounting Department must be consulted. If operation of DDD equipment is involved, the Plant or Engineering Department may need to answer questions on technical problems.

The entire organization is involved. Traffic people will find it increasingly important to take other departments into their confidence early in

Please turn to page 60

Each person in your area has specific telephone needs. To meet the needs of different customers, you must provide many types of phones—standard and special. Why? Because it's profitable! The customer who wants a special phone pays extra for the extra service.

Different people want different phones

Here—and on the following pages—are shown 12 of our most popular telephone instruments. Only AE offers you such a wide choice of phones.

TYPE 80 DESK PHONE
Classic desk model features famous "walking handset." Handset "walks" into cradle when replaced, avoids off-hook trouble. Special hooklock makes installation easy. Choice of 10 colors.

TYPE 90 WALL PHONE
A space-saver with narrow profile design. Special-angle dial is easy to use. Side-mounted handset can't be brushed off hook. Simple installation and maintenance. Choice of 10 colors.

AUTOMATIC ELECTRIC
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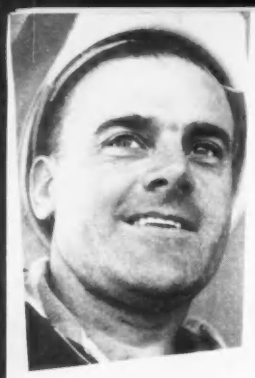
GENERAL SYSTEM



AE

CALL COMMANDER® PHONE
Key system service for up to 17 outside, PBX, or private lines. Pushbuttons light to serve as line signals. Intercom and conference features, too.

TYPE 86 PHONE
Key telephone provides switchboard convenience for small commercial subscribers. Up to six central office, PBX, or private lines. Dial or pushbutton intercom service. Choice of 6 colors.

TYPE 85-C DESK PHONE
For two-line pick-up, signaling and extension exclusion. Ideal for nurse, receptionist, secretary. Simple turn button switches from one line to another. Choice of 6 colors.

SPEAKERPHONE/Executive Model
New gain switching eliminates feedback, singing and other bothersome distortions. Your customer gets the same high quality transmission with loudspeaker or handset. Choice of 6 colors.

Makes a phone for every customer need!

SOUND-BOOSTER* PHONE
For the hard-of-hearing. Built-in amplifier lets user boost incoming signal up to six times its volume at the turn of a knob. Choice of 10 colors.

STARLITE* PHONE
The answer to a modern homemaker's dream. This compact phone is half the size of a regular phone. Choice of six colors. Dial light can be turned from soft to bright or completely off, anytime.

TYPE 87 PHONE
For the small office. Three lines with hold feature on each line. Lighted button indicates incoming call. Signal button may be used for secretarial buzzing. Extension exclusion is optional. 6 colors.

SPACE-MAKER® PHONE
Practical extension fits anywhere in the home. The dial tilts up to 45 degrees and rotates 360 degrees. Hookswitch swings from side to side in 180-degree arc. Choice of 10 colors.

*Trademark of Automatic Electric Company

OUTDOOR PHONE

A must for loading docks, cab stands, lumber yards, etc. Regardless of the weather, this phone performs with indoor dependability. Locking door limits use, prevents abuse.

HAZARDOUS LOCATION PHONE

Safe service in dangerous atmospheres. For use in oil refineries, gas plants, laboratories, etc. Sealed housing contains explosions, encloses all components that might produce sparks.

Meet the needs of your customers!

Are there any new subscribers in your area? Any old ones with new telephone needs? If so, show them the AE phone best suited to their particular needs. Contact your AE representative. He'll be glad to give you further details. Just write Automatic Electric Sales Corporation, Northlake, Illinois.

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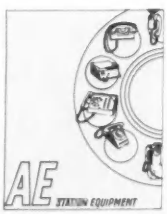

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Shows complete line of AE phones, telephone accessories, paystations, paystation booths and Electronic Secretary® answering units. Full ordering information. Prices are included to help you estimate costs. 32 pages.

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Accurate Accounting Required for Regulatory Application

Maintenance of adequate accounting records is an important task for all public utilities.

By PAUL E. WEILAND

Ohio Public Utilities Commission, Columbus, Ohio

FOR SUCCESSFUL results in any business organization, particularly in the organization of a public utility, it's essential that departments have an appreciation of the importance of the other departments and of the interdependence of all departments.

When Marcus Aurelias was trying to hold together the old Roman Empire, in an effort to impress on the citizens of Rome a sense of individual responsibility, he told them Aesop's fable of the hands, the mouth and the stomach.

The mouth said to the hands, "Why should we provide for this fellow stomach? He uses up all that we give him, and gives us nothing in return." Said the hands, "Let's stop feeding him." So the hands and the mouth stopped feeding the stomach. This hadn't gone on long, when the mouth began to quiver and the hands began to tremble.

As time went on, these conditions grew worse. Finally the quivering mouth said to the trembling hands, "Maybe, after all, this fellow stomach does do something for us in return for what we do for him." Said the hands, "Let's try feeding him again, and see if that helps." The hands and the mouth again began feeding the stomach. Soon the mouth ceased to quiver and the hands no longer trembled.

Such trial by ordeal shouldn't be necessary to create in any organization a mutual understanding of the contributions of others as a part of the whole effort.

In any business organization the accountants are the navigators. Theirs is the responsibility to provide for management the answers to these important questions: Where are we now? . . . How did we get here? . . . Where do we go from here? . . .How?

Maintenance of adequate accounting records is a greater, more important task for public utility than for other industry. Public utility accounting is in many respects markedly different from other industrial or commercial accounting. Its significance for management and for regulation is so substantial as to be unique.

Public utilities are regulated industries. They are regulated as to financing and rates. In many instances, particularly in the case of telephone companies, they are regulated as to availability of markets for service. Their required reports to governmental bodies far exceed those of unregulated industry.

For annual reports to regulatory authorities, accuracy is essential. Those reports are subject to close review and interpretation. Any laxity or inaccuracy in such reporting may work to the future disadvantage of the reporting company.

When Accounting Meets Its Most Severe Test

WITH creeping inflation since World War II and with unprecedented demand for additional service, utilities — unlike the Red Queen of *Alice in Wonderland* — find themselves unable to stay where they are even by running as fast as they can.

Technical progress and improvements in efficiency of operations have provided some, but not sufficient,

ABC
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A small boy's small problem
makes a big point about good telephone service

Perhaps you read his true story in a recent Bell System advertisement headlined, "Honest, Operator, I don't see any twenty on the clock."

He had called the Operator several times that morning asking for the time. Finally she became curious and asked him why.

"My baby sister swallowed a button this morning and my mother had to take her to the hospital. And she told me not to dare leave the house till twenty after eight. I looked and looked, and honest, Operator, I don't see any twenty on the clock. I'm afraid I'll miss my school bus."

"Don't worry, young man," said the Operator. "I'll call you when it's time to leave." And she did.

We put this little story into an ad because it is typical of the personal interest that telephone people everywhere take in their customers. Now that Americans are dialing many of their local and Long Distance calls, it is important to remind the public that Operators are still on duty, ever ready and willing to be of help.

BELL TELEPHONE SYSTEM

offset. This is particularly true of telephone companies since they don't experience decreasing unit costs and increasing returns with an increasing scale of operations that other types of utilities may undergo.

In such an economic atmosphere, the only action is to seek rate relief, if the company is to meet its responsibility in the furnishing of service. Accounting, for public utilities, meets its most severe test as to adequacy and accuracy in a rate proceeding before a regulatory body.

Most consumers aren't well versed in public utility economics, and can hardly be expected to applaud the prospect of higher utility bills. Regulatory commissioners find themselves between the Scylla of *darned if you do* and the Charybdis of *darned if you don't* in a rate application proceeding.

They are not endowed with supernatural powers to permit them to walk on water without rational support. The applicant utility must provide it.

Most important in giving this support is accurate and adequate accounting and an understandable explanation of what the records show and mean. This requires complete, informed cooperation of accountants and engineers.

Every rate case is a separate, distinct problem. This is so because of differences in laws of each state, the interpretation and application of laws by commissions and courts, and because of the particular characteristics of the individual utilities.

Membership consists of large, medium and small telephone companies. The smaller companies haven't the means or the need for elaborate accounting systems. But records should have certain information relative to matters usually at issue in rate cases.

The Rate Base

RATE BASE is always an issue in a rate proceeding. If the proceeding is before a commission where state statutes provide for a fair value rate base, an estimate of present-day reproduction cost will be submitted as evidence of value. This may be arrived at by a priced inventory or by trending the survivor dollars from year of installation for the respective plant accounts.

Whichever method is used, company records — if adequate — will provide excellent substantiation of unit costs or indices. I say this despite frequent challenge to company costs on the grounds they are costs for piecemeal construction.

Costs of construction in reasonable units will vary little, if any, from costs of construction of the entire property in a single impulse project. A comparison of costs for larger projects with those for smaller ones, with a weighing of the proportion of large and small projects, will provide a good adjustment factor.

More important, costs derived from company records reflect full costs. Regarding labor costs, the time was when many folks believed heaven would protect the working girl. Nowadays it requires minimum wage and

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These fringes are a sizeable proportion of total labor costs. Wherever labor costs are used or compared, all fringe costs should be accurately included and distributed in the cost of labor.

Next are overhead costs assignable to construction. In any telephone company there is a certain amount of the time of officers, supervisory employes, timekeeping expense, payroll expense, accounting expense, secretarial expense, travel expense, liability insurance, interest and taxes during construction, and other items caused by and chargeable to construction.

To record the true cost of plant, these overheads should be included in the cost of construction and credited to operating expenses at the time of construction. Otherwise, such charges may be considered as recouped from subscribers by their inclusion in the year's costs of operation.

Where a priced inventory is submitted by the applicant as evidence of current cost to construct the property, the regulatory commission may use a trended valuation as a check on the submitted valuation. Where the applicant has failed to include fringe benefits in its construction costs of labor or has failed to include chargeable overheads in construction costs, the trended valuation can't be an accurate check on the priced valuation.

Treatment of Retirements

OF EQUAL importance in maintaining the integrity of plant accounts is the treatment of retirements. For individual identifiable large units of property, plant records should be kept to permit finding of installed cost with overheads charged. In the case of purchased property, such property should be distributed to plant accounts on the basis of a valuation.

Where average cost retirement units are used for retirement of property in mass accounts, these retirement units should be revised as frequently as required to give effect to additions of property at current costs and changes in the purchasing power of the dollar.

Where a telephone company has purchased the property of another company whose plant is in such condition that substantial rebuilding is necessary, the use of average retirement units of the purchasing company for retirement of purchased property in the mass accounts may result in substantial overstatement of retirements. In such situations, a separate study should be made to arrive at cost of retired plant.

Where evidence as to original cost is to be submitted, the amount of preparation will depend on the extent to which the applicant's records on original cost have been reviewed by the regulatory body in a prior rate proceeding or in a separate accounting study.

If some of the property is purchased property — purchased at arms' length bargaining — there will be the matter of the treatment of acquisition adjustments representing the difference between original cost and cost to the accounting company.

If such amounts are being amortized, there's the matter of provision for amortization and return on unamortized balances. If amounts are retained in this account until retired, there's the matter of return on amounts representing plant still in service and provision for depreciation. Treatment of the amounts in the acquisition adjustment account can be important in a rate proceeding.

Determination of a reasonable allowance in the rate base for working capital involves various items. These include prepayments, postpayments, average balance on hand from tax accruals and time lag between rendition of service and payment.

While exchange service usually is payable in advance, the same is not true of toll service, coin box service and excess calls where measured service is furnished. Also included is the average of the month balances of materials and supplies chargeable to operation.

Members of this U.S.I.T.A. convention group are (l to r): JOHN G. REYNOLDS, editor of TE&M; PAT CULLINAN, TE&M's editorial assistant; JOHN FOUSER, Chicago; and BETSY MEYERS, TE&M's advertising assistant.

Depreciation Accounting

DISCUSSION of required accounting to meet the test of the rate case would be incomplete without consideration of depreciation accounting. There are no mathematical formulas to find the remaining service life of property in service.

It's true the future is usually impenetrable and unpredictable, and the only way we may forecast with any intelligence — or hope of success — is to make plans based on experience assisted by foreseeable cause and effect.

Assuming your original estimates of service life are about correct, with continuously growing plant the original estimates will have to be revised from time to time. This is particularly true with such classes of plant as central office equipment, where later installations will be subject to retirement along with the original installation.

The impact of such foreshortened

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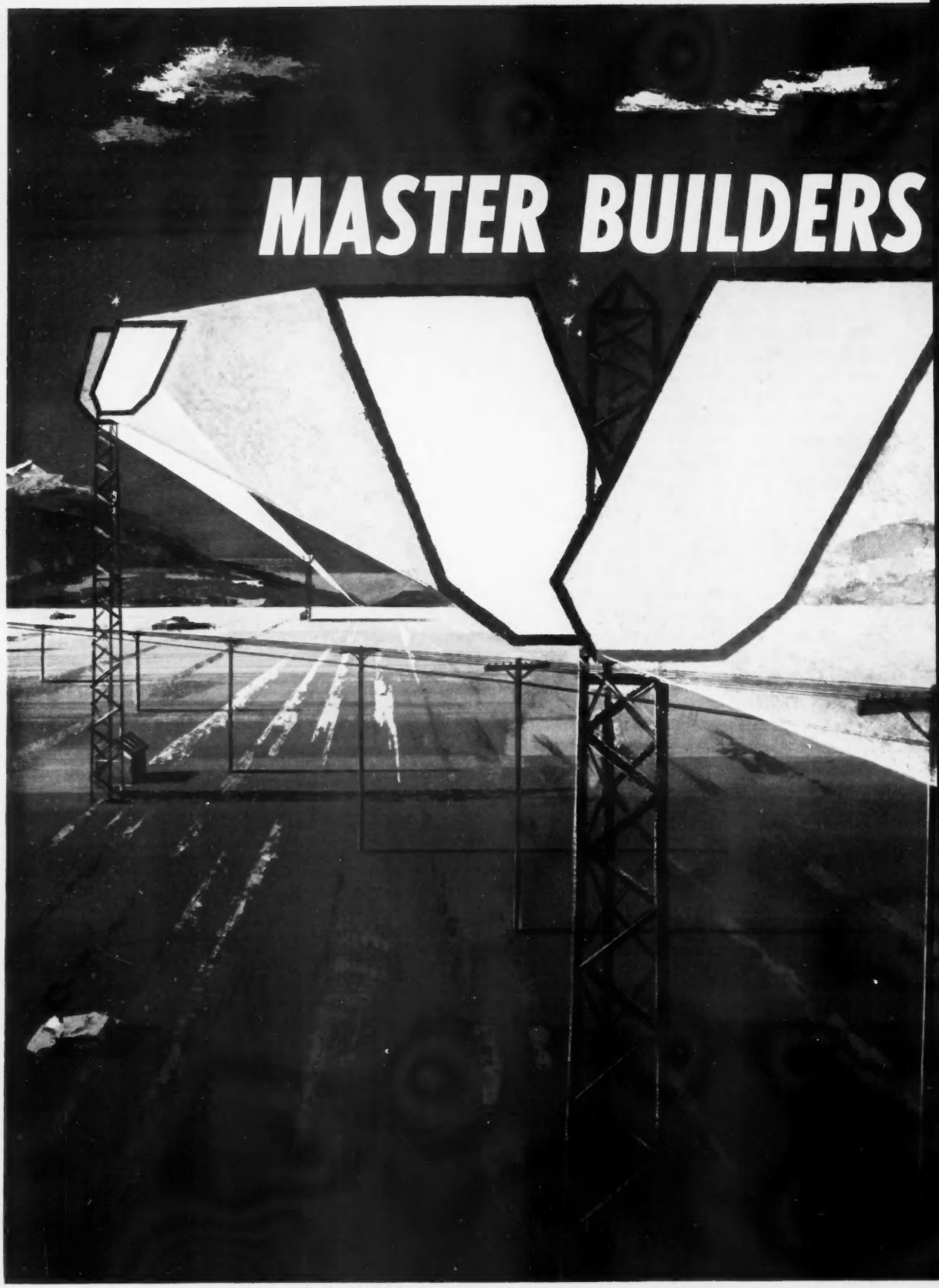
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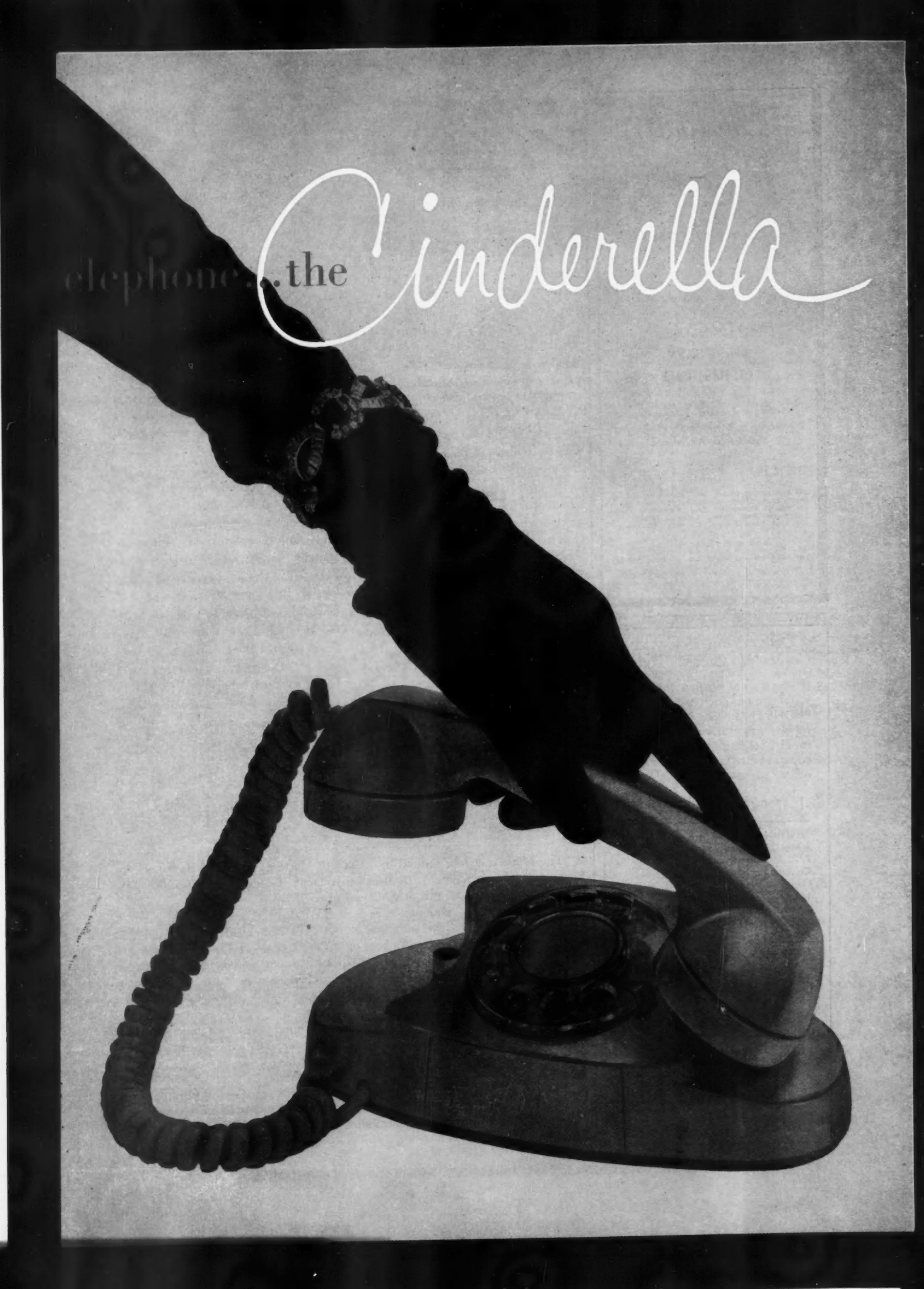
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(Concluded from page 45)

life will be greater in companies with one or a few central offices than with larger companies with a greater number of central offices. Provisions for depreciation must be reviewed periodically and revised to allow for current and prospective factors.

Accounting records should be kept to provide statistical support for such studies and revisions. In any depreciation studies, statistics should be the starting point.

They can only be the starting point. Mortality statistics can't by themselves be the basis for future provision for depreciation. That would be assuming the factors determining the service life of retired property would be operative in the same proportions during the life of the property now in service.

In these days when technological developments crowd in on us with electronic rapidity, such a presumption would ignore the realities of today and the potentialities of tomorrow. If adequate provisions for depreciation are to be maintained, we must have a thirst for divining the future and must make adjustments to the experience of yesterday. This is necessary to provide for the potentialities of tomorrow.

Adequacy of depreciation provisions can best be monitored if separate accruals and reserves are maintained for each plant account.

May I also suggest that you not wait until the preparation and filing of exhibits for a rate application before reviewing and revising your provisions for depreciation. Some commissions require that proposed revisions in depreciation accruals be submitted in a separate proceeding. Revisions in provisions for depreciation concurrent with rate applications take on the complexion of expediency to bolster the rate application.

Rates Are Made For The Future

RATES are made for the future. To enable a rate-making body to prescribe rates sufficiently compensatory in days ahead to enable the applicant to provide adequate service that is the least expensive in the long run, it isn't enough that they have before them only the record of what has gone before.

Using previous experience of the company, accurately recorded, interpretation of the significance and knowledge of company planning, you must project a picture of "Where we go from here."

It was Henrik Ibsen who observed: "I hold that man in the right who is most closely in league with the future." Even more true today than when Oliver Wendell Holmes said it: "The great thing in this world is not so much where we are, but in what direction we are moving."

Regulation can best serve the interests of the users of service and of the providers of service, if utility accountants will provide the means. — *Mr. Weiland presented this paper at USITA's 1961 Accounting Conference.*

■ **"The Marketing Job," edited by Elizabeth Marting; published by American Management Association, 1515 Broadway, Dept. TE&M, New York 36; 448 pages, cloth bound; $9 ($6 to AMA members.)**

This book explores modern concepts of the industrial marketing function — and new, broadened responsibilities of the man who heads it — through a symposium of views and experiences of 47 marketing executives and specialists. Each contributes a chapter, from participation in policy-making, product-planning, scheduling, and pricing, to selling, servicing products, and dealing with the public.

Market research and economic forecasting, and the periodic marketing audit receive emphasis, as do maintenance of good employe relations in the marketing group, cooperating with heads of other company operating divisions, development of an executive training program to supply future marketing leadership, and administration of the sales force.

This publication offers a blueprint for an effective marketing program in a practical working combination of many business elements based on a factual plan, a functional organization structure, and a professionally managed operation.

Conventioneers at the 1961 USITA annual meeting throng the halls of the Conrad Hilton. Here, between conference sessions, USITA members and guests take a breather in the corridors.

Representatives for manufacturers and suppliers crowd near registration booth prior to USITA 1961 convention. Their exhibits were on the fifth and sixth floors of the Conrad Hilton.

U. S. I. T. A. Committee Reports

Accounting Committee reports increase in use of mechanical accounting equipment . . . Engineering Committee report summarizes activities of the subcommittees . . . Traffic Committee reports on meetings with AT&T.

PRESENTING the report of the USITA Accounting Committee, W. H. Todd, chairman, reported the continued increase in installations of direct distance dialing and the conversion to all-number calling has made it necessary to broaden the use of mechanical accounting equipment.

"The ability to use source information originated by mark-sense toll tickets and direct distance dialing tapes affects the majority of operating telephone companies, large and small," he said. "If your company is not originating message information in this manner, I am sure you are involved on the basis of sent-collect and received-collect cards.

"Your subcommittee on mechanized toll billing and the use of mark sensing continues to have established the best of communications with a similar committee of the A.T.&T. Company. The full value of the use of mark sensing can only be realized by a complete standardization of the source data. We believe the advance in standardization of the cards in use has improved materially in the past 12 months."

The Accounting Committee also reported:

(1) The process of converting to all-number calling will require a period of several years due to complex problems related to printing of directories and Traffic and Commercial Department procedures.

(2) Conditions involved in billing and the proper handling for settlement purposes makes the new Wide Area Telephone Service a complex problem to the Accounting Department.

(3) The Accounting Committee has cooperated with USITA's Washington office in rearranging the annual statistical report to make the information of greater assistance and to more accurately set out comparisons. The various breakdowns have been set forth in more complete detail.

(4) The committee received a copy of the FCC order stating the commission isn't making any provision in its various systems of accounts to accommodate a communications common carrier taking advantage of accelerated depreciation for tax purposes. If a company takes advantage of accelerated depreciation, it may apply to the commission for a specific waiver of the accounting rules and regulations in event the company feels it is necessary. This has been done from time to time in the case of a few companies.

(5) The committee was requested by the Advisory Council on Federal Reports for recommendations to protect industry, particularly small business, against unnecessary burden of government paper work. The questionnaire was completed and returned by the Washington office.

(6) The committee has been advised the FCC intends to propose a change in its rules and regulations regarding separate depreciation rates for certain SAGE installations that would be written into Part 31 of the commission's rules.

(7) The committee was requested to consider the proposed rule change by FCC under Docket No. 14191, related to the transfer of certain house service expenses of public pay telephones from Account 632 to Account 605. It was found the majority of

Please turn to page 64

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"Making A Separation Study"

(Continued from page 32)

by the Bell System. Effective Oct. 1, 1960, new coefficients were placed into effect throughout the Bell System. These coefficients resulted in a substantial decrease in the work units developed. In addition to the coefficient values being changed, the classifications of outward toll calls was revised completely.

Important in making unit studies is the selection of the observation period to be representative of the annual study period. Traffic characteristics will vary. These characteristics also will vary in the same office during different periods of the year. In certain offices it might be practical to make studies for two different observation periods to develop factors representative for the entire year.

Suppose a toll center office is located in a resort area, and the toll traffic increased during the busy season from 40 to 50 per cent. If increased traffic consisted of long haul and a high per cent of person calls, the over-all coefficient for the office would be increased, compared to the slack period of the year. Likewise, the B-I traffic factors would be higher if the observation period was scheduled during the busy season. There would be little, if any, effect on the exchange or local traffic factors.

In the event an office had two distinct periods, as described, each about six months in length, a practical approach would be to make unit studies in each of the periods. These studies then could be composited to develop the necessary traffic factors to be applied to annual volumes of calls. If you have an office where the toll coefficient increases or decreases depending on the time of the year, you might consider making two studies.

Many offices are making unit studies for purposes other than a separation study. These would be made periodically to develop current coefficients to find units of work per employe hour — operators work load. The frequency of these studies will depend on the characteristics of the office. Where they change during various periods of the year, new studies are made to develop accurate coefficients. Reference to these studies will be helpful in selecting a representative period for observation.

In offices where these studies are made only on an annual basis, other factors will be helpful in selecting the observation period. You may find your office having difficulty during certain periods of the year in carrying a reasonable load while providing satisfactory service. During other periods the same office might carry higher loads and still render the same grade of service.

This would indicate that during the period of lower loads the office is handling more difficult types of toll traffic. Perhaps the per cent station traffic has decreased and the number of person, collect and long-haul traffic has increased.

Remember, the most important consideration in making unit studies is to develop final traffic factors representative of all messages handled by each office for the entire 12-month period.

Unit studies require the counting of many different classes of calls. It is important that these counts be made accurately and the persons involved in making the studies have a thorough understanding of the classifications of each type of call.

Some counts will be made by peg count meters, or tally slips by the operating forces handling the calls. Other counts will be made from ticket records. For those offices using mark-sense tickets the count of outward toll items is made in the Accounting Department by IBM machines. For offices not using the mark-sense toll ticket the count is made usually in a centralized peg count bureau.

One problem involved in obtaining necessary information from outward toll tickets is to avoid delaying tickets from reaching the Accounting Department in time for billing. We should avoid scheduling unit studies during latter part of billing period.

The amount of time required to obtain necessary information from these toll tickets will depend on the number of persons available after the tickets are received in the centralized bureau. It is desirable to have a steady volume of toll tickets coming into the bureau to insure an even work load for these employes.

Use of a portable microfilmer has helped our company solve this problem. Our unit studies supervisor, in the central office at the time the study is being made, microfilms all toll tickets the morning after each day's study. At completion of the study, the tickets are mailed directly to the Accounting Department with minimum delay. The microfilm is processed and mailed to the centralized bureau. Use of microfilm insures an even flow of work for persons taking information from the tickets.

Information traffic makes up a large part of the exchange or local units of work. It is important to schedule the observation period for unit studies so information calls are representative of the entire year. Annual information units are determined by developing the number of information units per local originating call or linefinder registration.

The volume of information calls per local originating call will vary, depending on the observation period selected relative to the date new directories are issued.

Information calls increase throughout the life of the directory. We should avoid making unit studies near the end of a directory period. It will cause the per cent of independent units to be higher than if the study was made near the middle of the directory period.

Line-Haul Study

THE THIRD type of traffic study developed for separation purposes is the line-haul study, or message-minute-mile study. These are made where an Independent company owns toll circuits carrying traffic interconnected with the Bell System. Message-minute-mile study traffic factors are developed to determine what portion of this toll investment is used for handling B-I traffic.

These are referred to as "C" function costs.

I know of no study that will provide you with the knowledge of your toll circuit plant as will the message-minute-mile study. These studies are made for a 10-day period, again representative of the annual traffic carried by these circuits. The factors developed from the 10-day study are applied to annual volumes of line haul messages to determine final traffic factors.

Here again, representative volumes of messages for the 10 days may not produce the desired information. The length of conversation of these messages, expressed on a conversation per message basis, should be representative of the annual period.

The complexity of the message-minute-mile study will depend on the number of toll circuit groups owned by the Independent company and the number of these circuit groups carrying interconnected traffic. Where a certain class of call is carried over Independent circuit groups, care must be taken to include conversation minutes over each of the circuit groups.

The studies must be made to show the routing of this traffic on an accurate basis. Routing instructions used in summarizing line-haul studies must be current and factual. Classification of this traffic as to Independent, B-I Intrastate or B-I Interstate must be accurate and in agreement with line-haul messages reported by the Accounting Department for settlement purposes.

At the completion of a separation study, you'll have accumulated a vast amount of information regarding the traffic operations of your company. It would be unfortunate if we couldn't find some good use for this information in addition to developing traffic factors for separation purposes.

Usage studies can be used effectively for the purpose of traffic engineering to develop equipment requirements.

Unit studies can be used for administrative purposes to develop operator work loads and your company's cost per thousand traffic units. There is an aspect of traffic administration which may have some effect on your separation studies. By reason of toll traffic being interconnected with the Bell System as well as other Independent companies, it's essential that operating procedures for toll traffic be uniform. We receive the latest Bell System practices for operating toll traffic in the most efficient manner.

The same doesn't apply to local traffic, such as information, dial assistance or intercept calls. If a review of the factors for local traffic shows these are unusually high, an analysis should be made of practices used for handling this traffic. Any increase in the efficiency of handling these calls will not only decrease Independent costs but tends to increase the toll traffic factors as related to the total office.

The message-minute-mile study will provide you with a thorough knowledge of your toll circuit plant and may indicate present traffic could be re-routed more effectively over other circuit groups. The line-haul studies also might be used to furnish information for other purposes, such as feasibility of Extended Area Service between certain exchanges.

I'd like to emphasize the importance of the traffic portion of a separation study. Persons to make traffic studies should understand fully the significance of their responsibility. They should be properly trained so the studies produce accurate results.

The observation period should be selected carefully to be representative of the annual study period. In the final analysis, we should certainly take advantage of our efforts by using the information for whatever purpose may prove valuable, whether it's engineering central office equipment and toll circuits, or to improve efficiency in the administrative end of the Traffic Department. — *Mr. Paulsen presented this paper at USITA's* 1961 *Traffic Conference.*

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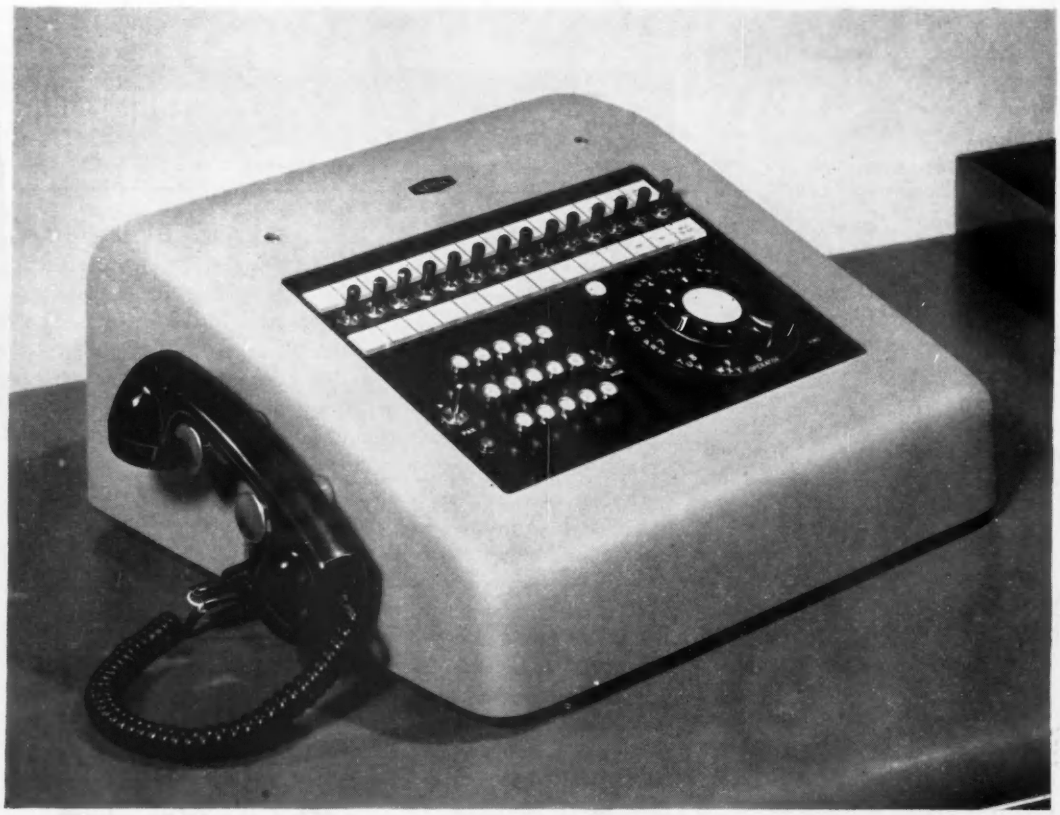

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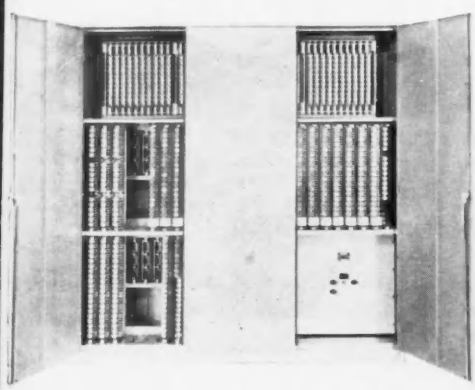

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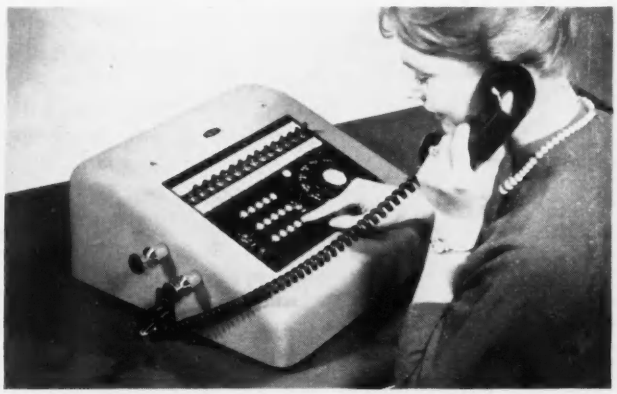

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"Joint-Use Contracts"

(Continued from page 34)

of a proportionate ownership of a typical joint pole designated as a "standard of reference" or "normal" joint pole. The size and class of the normal pole are generally specified in the agreement. Where a pole higher or larger than normal is required, the company requiring such larger pole pays for the additional cost and takes title in proportion to its investment. Such agreements usually cover all of the joint poles in the area common to the power and telephone organizations concerned.

(2) *The Permanent Rights* form of agreement is essentially a modification of the Joint Ownership form, in which each of the parties retains sole ownership and title to certain of the joint poles and the other party purchases a permanent right of occupancy. Other arrangements are substantially the same as in the Joint Ownership form. The objective of these agreements is that each company should own and have title to about one-half the joint poles on a normal joint pole base.

(3) *The Flat Rental Per Pole* form of agreement is a much-used form of the rental arrangement. The basic concept of the Flat Rental Per Pole Agreement is that each party will own about one-half of the jointly-used poles and that rentals will be about one-half the average annual charges on a pole stipulated as the normal joint pole. The normal joint pole is usually specified in the agreement. The added cost of poles larger or higher than normal are paid for by the party requiring such poles.

(4) *The Attachment Rental* form of agreement usually provides for rental rates for attachments of wires, cables and crossarms in available space on owners' poles. They differ from the attachment permit form to the extent they cover the area common to the companies concerned, where the attachment permit form covers only the pole or group of poles specified in each case.

(5) *Miscellaneous and No Agreement* classification includes situations in which joint use has been effected as the result of exchange of letters or of informal understanding. These conditions often occur in smaller towns where there are small municipally-operated power plants and the number of joint poles involved is small.

Regardless of what form of contract is used, telephone companies today believe, and I think rightly so, that the payments stipulated in these agreements should be based on the requirements of the individual parties concerned and that our industry should not have to pay a premium for our cooperation.

Some telephone companies have been successful in negotiating contracts based on the average space requirements of each utility on a normal pole. For instance, on a 35-ft. pole, 6 ft. is allocated for the setting in the ground, 18 ft. for clearance and this leaves a balance of 11 ft. Of this the telephone company is allocated 2 ft. clearance and requires another 4 ft. for equipment, and the power company is allocated the remaining 5 ft.

If we discount the first 24 ft. and then divide the clearance space equally between the two utilities, the telephone company uses 4/11 of the usable space and the power company 7/11, or 36 per cent to the power company's 64 per cent.

Although power companies often use the top of the pole for a ground wire or an insulated conductor, they sometimes claim the top 1 ft. is for roofing and is common. Even deducting the additional foot, the percentage is still only 40 per cent for telephone circuits and 60 per cent power. Annual carrying charges on poles vary between 10 to 15 per cent. If the pole costs $40 in place, then the telephone company on a 10 per cent annual charge should pay $1.60 rental per year and the power company $2.40 on a 40-60 per cent basis. These percentages can also be applied to proportionate ownership of the poles instead of yearly rentals.

Another method of determining rentals on proportionate ownership is called the Share-the-Savings plan, and is based on the savings of sharing poles against separate poles. Savings are divided in the ratio of the cost of separate poles to the cost of the sum of separate poles. For example, assume there will be no joint use on a stretch of line consisting for simplicity of 100 poles. The telephone company alone can get by with 25-ft. Class 5 poles, while the power company uses 35-ft. Class 5 poles.

	Av. cost/pole	*No. of Poles*	*Total*
Tel. Co. 25-C5	$40	100	$ 4,000
Power Co. 35-C5	$90	100	$ 9,000
Total cost to both companies			$13,000

Suppose we use joint construction:

Cost Standard 35-C5		$90
No. of poles		100
Total cost of joint line		$9,000
Savings $13,000-$9,000	=	$4,000
Under a 50-50 basis:		
Tel. Co. cost 50x90	=	$4,500
Power Co. cost 50x90	=	$4,500
Cost (loss) to tel. co.		$500
Savings for power co.		$4,000

This is unfair to the telephone company. In fact, it makes joint construction impractical for them.

Now to share the savings equally, the telephone company should realize $\frac{\$4,000}{2} = \$2,000$.

This reduces the telephone company's cost: $4,500 — $2,000 = $2,500.

Based on the $90 joint poles, the telephone company should own $\frac{2,500}{90} = 28\%$ of the poles; power company owns 72%.

The power company will undoubtedly scream at this proportion, so suppose we share the savings in proportion to the amount we would have invested in separate lines:

The power company should save $\frac{9,000}{13,000}$ or 69%.

The telephone company should save $\frac{4,000}{13,000} = 31\%$.

31% of \$4,000 = \$1,220

And to save \$1,220, the telephone company cost should be \$2,780.

The telephone company should then own $\frac{2780}{90} = 31\%$ of the poles and the power company should own 69%.

Using the in-place figures for our company for 25-ft poles (we have little need for anything heavier than Class 6), the Share-the-Savings plan would be so extremely in our favor that the power company would need a truckload of crying towels. It worked out to 14 per cent of the poles for us and 86 per cent for them.

Whether your joint-use contract is based on a proportionate share of the investment or a Share-the-Savings concept, it seems to our company that this is the proper approach to a fair contract. We are all interested in increasing our revenues and our profits, and we're as equally concerned with keeping our expenses to a minimum. The total costs of joint use are no small item. The Bell System as of 1950 had 9.7 million joint-use poles, and were experiencing a gain of about 500,000 poles each year so its total now should be close to 15 million.

Unfortunately, our segment of the industry has no total statistics available, so I have no idea as to how many joint poles the Independent companies use. If we assume the proportion to somewhat correspond to the number of telephones in each segment of the industry, there might be 2½ to 3 million joint poles used by Independent telephone companies.

If so, we are not talking about small figures and the demand and need for joint construction is not going to decrease, nor could we abandon it if we wanted to. Neither can the power industry.

In gathering the information for this report, the telephone companies are able to secure differential types of joint contracts with REA power companies, and the majority are municipal power companies. In our state, and I presume this is a standard REA contract for the entire country, telephone companies pay the REA \$1.30 per pole while the REA pays the telephone company \$2 per pole. This is roughly a 60-40 split and was negotiated because the co-ops recognized the fairness of our reasons for a differential contract.

Unfortunately, the private power industry does not hold the same viewpoint, and it is with that segment of the power industry that telephone companies have the hardest time to negotiate joint-use contracts which are fair to the particular telephone company.

Now the basic idea behind joint use construction was not that either utility expected the rentals to be a source of revenue. Instead, the premise was that the cost to each should be equitable and the benefits from such construction from the standpoint not only of economy but public convenience would outweigh the construction and maintenance of separate pole lines.

In the early days of joint construction, when each utility used a more equal share of the poles and when electric companies did not require as heavy a pole, it was the avowed intent that each should own about half of the joint poles. So payments between the two parties to the contract was practically nil.

Today, any telephone company that tries to match a power company on a 50-50 basis soon finds its investment in poles is much greater than its own requirements call for. The report of the General Committee of the Edison Institute and the Bell System of 1945 states "Joint use agreement should preferably be of type under which each of the parties share equitably in the cost of joint poles." Unfortunately for our industry, the Edison Institute which represents the majority of the private power companies interprets this to mean that telephone companies pay one-half the construction cost.

For the past 10 years, our company has tried to negotiate a differential type of contract with the major private power company of our area. Each attempt has met with the same song and dance: "The matter is being studied by the Edison Institute and when they recommend a different type contract, we will comply but we are not going to set a precedent." Other telephone companies that have met with failure in trying to negotiate more realistic contracts have received the same answer from other power companies.

Where do we go from here? I should like to recommend that as Independent telephone companies, we once again close ranks and attack the problem jointly through USITA. As we have joined forces to work out more equitable toll compensation through the USITA Toll Settlements Committee, as we have joined forces in our national advertising program, in problems of nationwide DDD, so can we together work out a more satisfactory joint-use contract.

I'm convinced this problem will not improve by itself. It is not a nightmare that disappears with the morning light. The power industry is expanding too, and it is running out of rights of way for transmission lines. Witness their experimentation with extra high voltage lines up to 750,000 volts. These are necessary for the transmission of the huge blocks of power their customers require. Down through their systems, there is an ever increasing upgrading. Where they had one set of primaries on poles, they now need two or a transmission line and primaries plus the secondary circuits. All this means they are going to heavier and taller poles.

Joint construction for our industry can well be absolutely prohibitive, or if no alternative — extremely costly. By gathering facts and exchanging information on our experiences, we should be able to convince another industry with more at stake from a private enterprise standpoint than we have that we are not being treated fairly and it's time for a change.

There are already kinks in the power companies defenses. Some differential contracts have been negotiated but mostly between large telephone companies who had the staff and time to battle it out. Through a

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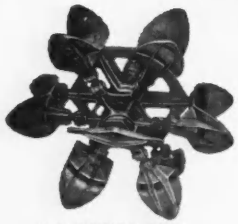

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committee appointed by USITA, we can pool our statistics and experiences.

Armed with this data, such a committee should be able to meet with the Edison Institute and work out a better type contract. I am convinced that individually we can't do the job, and our only hope is united action. It has been encouraging in preparing this report to find many telephone people share this viewpoint. — *Mr. Ferguson presented this report at USITA's* 1961 *Plant Conference.*

"Traffic"

(Continued from page 36)

consideration of a new scheme or operation.

Traffic people can expect to get deeper into more phases of the overall operation. You are bound to become more concerned as centralization of operating efforts progresses. Your problems of giving efficient and accurate information services will be increased.

Before Podunk was converted to dial, you had no problem with information — The operator in Podunk had it all in her head. Then Podunk went dial. It still wasn't so bad, for Podunk information was handled by its toll center only about 10 miles distant. But now DDD has come along (or will); and area-wide directories are within sight.

Now you are faced with the prospect of giving information service for towns twice removed. How can the Commercial people expect you to give out correct facts when the Plant people don't promptly give you the information on worked orders?

Though this may not be an exciting example, it suggests that you be attentive to changes on the horizon. Advances in the art are guaranteed to compound your problems. It will be worth your time to anticipate them and instigate corrective action in your own or other departments before these problems affect service.

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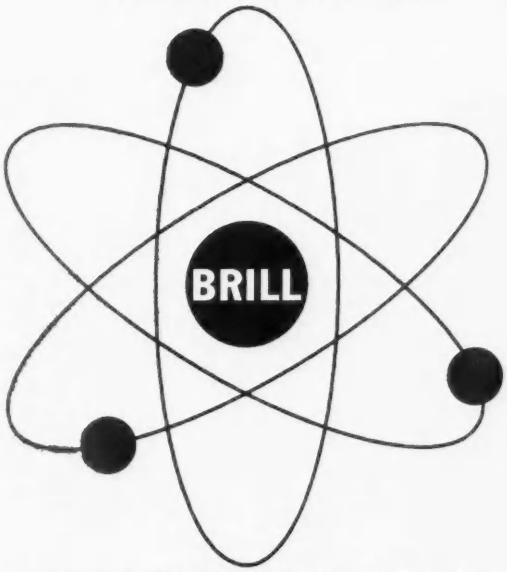

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■ From cover-to-cover, the Jan. 15, 1962 "*Telephone Industry Forecast Issue*" of TELEPHONE ENGINEER & MANAGEMENT will be an issue you will want to read and retain for future reference.

■ Just to sample what's coming, check the following list of the exclusive features you'll find in the Jan. 15, 1962 TE&M . . . Then — enter your *personal subscription* to TE&M. That's one way of making sure you will receive a copy (you can keep) of TE&M's "*Telephone Industry Forecast Issue*" and the 23 other important issues TE&M will publish in '62.

1 — INDUSTRY FORECAST

"TE&M's SECOND ANNUAL TELEPHONE INDUSTRY FORECAST."
By John G. Reynolds, Editor of TELEPHONE ENGINEER & MANAGEMENT.

A new year means the start of a new growth period for the communications industry and the reappearance of such questions as — *"Will station gains continue?"* . . . *"Will operating revenues increase?"* . . . *"Will expansion — improvement projects continue?"*

These and many other questions will be answered by TE&M's survey of operating data supplied to its research department by the nation's telephone companies.

By text, charts, graphs, and tables, the lead article in the Jan. 15, 1962, *"Industry Forecast"* issue of TE&M will:

(1) Present a complete statistical summary of the telephone industry, giving growth data for the 3-year period 1960-1962.

(2) Report the total gross construction additions planned by the telephone industry for 1962.

(3) Indicate state-by-state trends in telephone growth, gross construction additions, and gross operating revenues.

(4) Tell the story of progress made by the Independent telephone industry, the REA-financed companies, and the Bell System in 1961 and their plans for 1962.

2 — GROWTH DATA

"TE&M's 1961 SURVEY OF THE TELEPHONE INDUSTRY."
By TE&M's Research Department.

In 1960, 404 of the nation's telephone companies responded to TE&M's request for operating data. This year 1,100 of the nation's top telephone companies are being asked to provide complete information on their operations for 1960, 1961 and forecasts for 1962.

Using the data provided by the companies, TE&M's Research Department will build a report that will provide telephone growth data on each state for 1960, 1961 and 1962. In 15, or more tables this important report will discuss:

(1) Number of exchanges operated in each state.

(2) Number and types of central offices in operation.

(3) Summary of dial, common battery and magneto telephones in service in each state.

(4) A state-by-state report on gross construction additions — outside plant, central office, station equipment, land and buildings, etc.

(5) Summary of total communications plant in service by states, 1960, 1961, 1962.

(6) State-by-state trends in telephone growth revenues, and expenditures for expansions and improvements for 1960, 1961, and 1962.

3 — OPERATING DATA

"TELEPHONE INDUSTRY STATISTICS."
By TE&M's Research Department.

What's happened to the U. S. telephone industry since 1956? You'll find the answer to that question in the statistical section of TE&M's "Telephone Industry Forecast Issue," in charts and tables giving the year-by-year story on the telephone industry's growth from 1956 through 1961.

Exclusive tables and charts prepared by TE&M's Resarch Department will present statistics on:

(1) Telephones in service.

(2) Operating companies — Independent and Bell.

(3) Number of exchanges.

(4) Investment in telephone plant.

(5) Gross operating revenues.

(6) Number of employes.

(7) Growth data — Independent, Bell and total telephone industry.

(8) Data on equipment produced by the communication equipment manufacturing industry — telephones, dial C.O. equipment, dial PAX equipment, manual C.O. equipment, telephone booths, cable terminals.

(9) Reports comparing the telephone growth of each state with the growth in population as indicated by U. S. census reports.

4 — WASHINGTON

"THE SECOND YEAR OF THE NEW FRONTIER."
By Fred Henck, Executive Editor of "Telecommunication Reports, " Washington, D. C., and TE&M's Washington Editor.

What about the "New Frontier" and its effect on the communication industry and business in general?

That question and others will be answered by Mr. Henck in an exclusive report scheduled for publication in the January 15, 1962, "Telephone Industry Forecast" issue of TE&M, as the author draws upon his many years of Washington experiences to point up to some significant guideposts of major importance to the communication industry.

5 — PLANT FORECAST

"THE 'NEW' IN TELEPHONE PLANT IDEAS."
By John S. Reed, Technical Editor of TELEPHONE ENGINEER & MANAGEMENT.

Just as it has in the past, telephone plant improvements will highlight the telephone industry's progress in 1962.

TE&M's Technical Editor, John S. Reed is preparing a special article for the Jan. 15, 1962, issue of TE&M describing the new ideas, that will speed plant expansions and improvements.

By text and illustrations, Mr. Reed's article will discuss:

(1) New prewiring methods.

(2) New types of construction trucks.

(3) Buried plant.

(4) Use of carrier and microwave to increase the number of available circuits.

(5) Improved types of aerial lifts.

(6) Satellite communications.

6 — ENGINEERING FORECAST

"BETTER TRANSMISSION IN 1962."
By C. D. Ehinger, President, Citizens Telephone Co., Decatur, Ind.

Better transmission is constantly becoming more important to all telephone companies and it will continue as a number one objective of the industry in 1962.

Mr. Ehinger's article will discuss the methods telephone companies are using to obtain good volume, faithful reproduction of the speaker's voice, freedom from echo and background noises, safety from electrical hazards, and emphasize that each company must give adequate attention to transmission maintenance.

7 — COMMERCIAL FORECAST

"IN 1962 MEET YOUR PUBLIC AT THE SERVICE CLUB LEVEL"
By Allen R. Stacey, Vice President, Sunland-Tujunga Telephone Co., Sunland, Calif.

The author of TE&M's popular feature department "Commercial Department Notes" believes telephone companies will have many communication stories to tell their customers in 1962. In this exclusive article, written for the Jan. 15, 1962, "Telephone Industry Forecast" issue of TE&M, Mr. Stacey discusses modern methods of presenting a telephone company program to a community service club.

8 — SMALL COMPANY

"THE SMALL COMPANY JOB IN 1962."
By Bill Corman, Manager, Southland Telephone Co., Atmore, Ala.

What's ahead for the small telephone company?

In a special article, prepared for the Jan. 15, 1962, "Telephone Industry Forecast" issue of TE&M, Mr. Corman will answer that question, and present proved-in-by-experience solutions to many of the problems that are causing trouble for some of the nation's telephone companies.

9 — TRAFFIC FORECAST

"PEOPLE — TRAFFIC's VIEW FOR '62."
By D. A. Perigo, General Traffic Manager, West Coast Telephone Co., Everett, Wash.

Is the Traffic Department's biggest problem in 1962 going to be people?

Author Perigo believes it will be, and in a special article, prepared exclusively for the Jan. 15, 1962, "Telephone Industry Forecast" issue of TELEPHONE ENGINEER & MANAGEMENT, he presents a workable plan for meeting what may well be one of the industry's most pressing problems.

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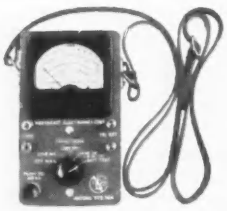

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(Concluded from page 60)

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"Committee Reports"

(Continued from page 51)

the telephone companies currently are charging this expense to Account 605, as it is actually performed by Plant Department employes. The committee offered no objection to the proposed change.

(8) Early this year the USITA Settlement Committee and Bell System representatives agreed on an interim increase of about $10 million as additional commissions to be paid the Independent companies. The interim increase will be applicable for one year, during which a nationwide study of the cost of "A," "B," line haul and automatic ticketing will be jointly undertaken by the USITA and Bell System. The average schedules are then to be adjusted to the results of the study on its completion.

"The Settlements Committee has worked long and diligently to make this increase in settlements available to Independent companies," Todd said. "It is mandatory that all the Independent companies give full cooperation to this nationwide study."

Engineering Committee Report

THE REPORT of the USITA Engineering Committee, presented at the Engineering Conference October 9 by Chairman A. A. Wilson of Mattoon, Ill., summarized activities of the committee and its seven subcommittees.

(1) Report of the Main Committee: A joint meeting between the USITA Engineering Committee and representatives of the Bell System was held in New York City June 7

and 8. The purpose of this meeting was to continue the coordination of engineering matters affecting the Independent telephone industry and the Bell System.

Notes covering details of the various items discussed at this meeting are being prepared and will be available to member companies on request to the USITA's Washington office.

(2) Subcommittee On All-Number Calling: There has been no activity during the past year with this subcommittee, as all-number calling has been progressing smoothly with no particular problems.

It is the feeling of the subcommittee that, should any problems arise in connection with all-number calling, they could be handled by the DDD Subcommittee or by the various other committees directly involved with all-number calling — the Traffic Committee, the Accounting Committee, or Commercial Committee.

(3) Subcommittee On Direct Distance Dialing: The past year has been one of unusual activity for this subcommittee due to the proposed introduction of new services, such as dial conversion of TWX and Wide Area Telephone Service.

The subcommittee released "Preliminary Notes on TWX Mechanization" and two supplements to it; also a memorandum on Wide Area Telephone Service. A memorandum on the future use of 100-words-per-minute teletypewriter machines will be released to USITA members.

A draft copy of the revised "Notes on Distance Dialing" was submitted to the subcommittee by AT&T Co. late last year. Comments by the members of the subcommittee and by various suppliers were sent to AT&T early this year. Many comments will be incorporated in the final printing of the new Notes.

(4) Subcommittee On Engineering Education: The need for further training in the field of telephone engineering has long been recognized by the Independent segment of the industry. The annual Telephone Engineering Conference sponsored by USITA has done much to fill this need.

That the value of the conference has been recognized is shown by support given it by the telephone industry. In the five years of its existence, 246 telephone people have participated. Eighty-two different companies have been represented. There have been conferees from Hawaii, Bermuda, British Columbia, Chile, Puerto Rico, and Colombia. In 1961 there were 55 students from 29 different companies.

(5) Subcommittee on New Techniques and Devices: The subcommittee reported the Bell experimental exchange at Morris, Ill., is progressing on schedule. According to the subcommittee, the various Independent manufacturers are making progress in development of solid-state switching systems. Stromberg-Carlson had a 50-line Private Electronic Branch exchange (PEBX) on exhibition at the USITA Convention. This system is to be installed at South-

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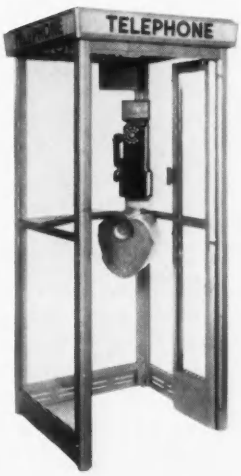

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ern Pines, N. C., for United Utilities in November 1961.

Stromberg-Carlson also plans to install a 130-line, 300-terminal CDO for the Dryden Telephone Corp., Etna, N.Y., in March 1962. It is understood that the company has an order for MDO but it hasn't been scheduled yet.

RCA, Philco, Minneapolis-Honeywell, and various other electronic firms, are also in diversified phases of electronic switching development.

The subcommittee report said buried cable installations are increasing at a tremendous rate, and the REA estimates almost 35 per cent of the plant installed by its borrowers during 1961 will be underground.

"The Illinois Bell and the Commonwealth Edison Company have for some time now been active in the development and promotion of low-cost buried underground construction," the report said.

"The earlier installations were made with each utility occupying a separate trench with buried service being provided to approximately 11,000 homes in a jointly operating area. In October 1959, a joint committee was established to study the feasibility of this type of construction. The first trial installation was made in Arlington Heights, northeast of Chicago.

"A total of 211 homes were served in this trial. The telephone and power cables were buried in the same trench with the required 12 inches of earth separation between the two services."

Looking toward the future, the subcommittee said telephone and power cables can be installed at the same depth with random separation in a common trench even though there will be no separation at some points. Since this arrangement doesn't conform with present NESC requirements, joint permission must be obtained from local regulatory bodies as provided in Rule 201A of NESC prior to making an installation of this type.

(6) Subcommittee on Radio and Carrier: This subcommittee has been active through the assistance of Thomas R. Warner, USITA Radio Engineer, on Federal Communication Commission matters concerning radio. It will continue to look after the interest of the Independent industry and to keep member companies advised of latest developments.

The subcommittee also has been busy on the study, revision, and final approval of its proposed *Dial Mobile Public Telephone System Guide*. The subcommittee's objective is to produce a source of information on dial mobile radio systems which would be of assistance to telephone companies and their suppliers in planning for this type of service without specifying technical standards limiting future development of dial mobile systems in any way.

(7) Subcommittee on Technical Liaison with AT&T Co.: During 1961 several meetings were held with AT&T primarily in connection with MTWX. Minutes of these meetings have been prepared and are available to member companies on request to USITA's Washington office.

It's anticipated that additional meetings will be held during the remainder of this year. As new services are planned, additional meetings will be necessary during the coming year.

(8) Subcommittee on Transmission and Protection: This subcommittee during the past year has prepared and distribution has been made of these Engineering Bulletins dealing with transmission:

(1) *Transmission Testing Procedures for Joint (Bell-Independent) Circuits.*

(2) *Management Control Indices Relative to Transmission Quality.*

(3) *Exchange Area Trunk Objectives.*

(4) *Subscriber Loop Objectives.*

(5) *Electro-Acoustical Rating System.*

The committee also has prepared an Engineering Bulletin on *Transmission Objectives of the Toll Switching Plan*, now being cleared for distribution. These bulletins were prepared after conferences with Bell System representatives.

During the year a change in the method of distribution of Engineering Bulletins originated by this subcommittee was put into use. All bulletins are issued under the "E" Section on "Transmission and Protection" and have been indexed for reference.

As each bulletin or memorandum is issued, a new index sheet will be distributed with the bulletin as a replacement for the index sheet previously issued. This will enable member companies to have available accurate and up-to-date information on all Engineering Bulletins dealing with transmission and protection that have been issued and are available.

Work has continued on encouraging establishments of State Transmission and Communication Improvement Committees. Last year there were 11 states with TCI committees. There are now 19. States which have organized committees are California, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Nevada, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia.

The subcommittee met with Bell representatives in New York on June 9 to review industry developments and problems on transmission and protection. Minutes have been prepared of information discussed. As soon as the final review has been completed by the committee and Bell representatives, the minutes will be issued in Engineering Bulletin form as an information memorandum in the "E" Section.

During the meeting in June, progress was reviewed on the transmission manual being jointly prepared by this subcommittee and Bell representatives for distribution throughout the industry. This manual will be titled *Objectives for Communication Circuits* and will contain these sections: Private lines; local loops; toll connecting trunks; intertoll trunks; non-toll trunks; inductive coordination; protection; maintenance; results measurements; and glossary of terms.

It's planned to have a printer's copy of the manual available in October. Drafts of three sections covering private lines, local loops, and

non-toll trunks already have been prepared.

The subcommittee is continuing to encourage formation of Communications and Improvement Committees in these 15 states: Alabama, Alaska, Arkansas, Kansas, Louisiana, Maine, Mississippi, Nebraska, New York, North Dakota, Oklahoma, South Dakota, Tennessee, Washington, and Wisconsin.

State TCI committees have been active in publishing minutes, memoranda, and bulletins for companies in their states. Committees in this activity are in Pennsylvania, Virginia, Iowa, South Carolina, North Carolina, and Illinois.

The subcommittee will ask all state committees to cooperate in a program of exchanging this material with other states. In this way each state may select for its own distribution a supply of material prepared by other states but meeting its own needs.

A pilot committee in South Carolina is working now on a plan to obtain information from all companies in the state, permitting evaluation of progress made in meeting transmission objectives. As soon as this plan is put into effect, details will be made available to other TCI committees.

Traffic Committee Report

PRESENTED by Committee Chairman A. W. Lambert, San Francisco, Calif., the report of the USITA Traffic Committee included the committee's proposed procedure through which details of subjects on meeting agendas would be distributed to the Independent industry; a resume of the meetings (one in May, one in August) between the committee and Bell representatives; and the committee's plan to work with Bell traffic representatives.

"The committee and Bell representatives unanimously agreed that joint meetings would promote better understanding of Bell and Independent traffic objectives and problems." Lambert said.

The committee praised cooperation given by Bell in unreservedly providing information requested by Independents, particularly on future plans

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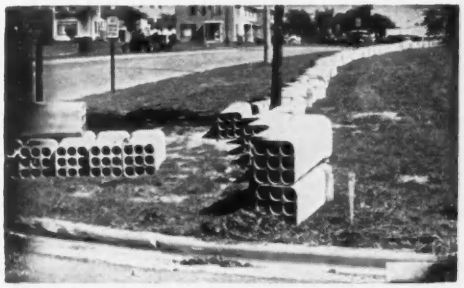

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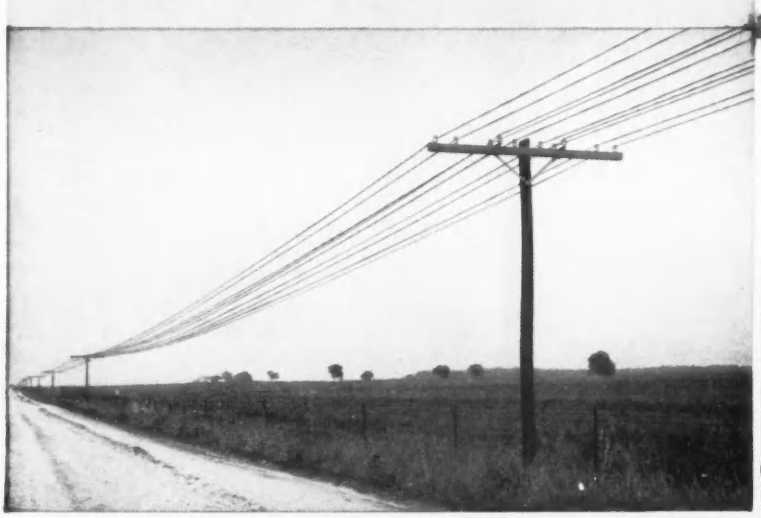

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in traffic of new, proposed services.

At the May meeting in Washington, D.C., the committee prepared an outline of the program for the Traffice Conference at the 1961 USITA Convention in Chicago, and reviewed the traffic portion of separation procedures for the 1961 Nationwide Study — making recommendations to the Subcommittee on Message Toll Settlements. And with Bell representatives, the committee prepared an agenda for the August meeting in New York City.

"At future meetings, committee members will prepare a memo on each subject discussed," Lambert said.

"This was done at the August meeting. These memos will be edited and released to the Independent industry through the USITA office. The publication will be titled *Traffic Committee Bulletin*. Subjects involving Bell System operations and planning will be edited jointly with Bell representatives. Bell undoubtedly will release the *Bulletin* to its associated companies."

"Communication between AT&TCo. and the USITA Traffic Committee regarding traffic practices of industrywide significance" was considered the most important subject by the committee and Bell representatives.

"The better the communication between Bell and Independents, the better informed are we of the Bell System's plans and objectives, particularly with regard to new services," Lambert said.

Also, the Traffic Department of AT&TCo. made a departmental review of existing routines to keep the Independent industry informed. After this review, and with the more frequent availability for meetings with the USITA Traffic Committee, the AT&TCo. has made certain changes in the company's internal practices that will result in closer liaison between the committee and Bell traffic staff personnel.

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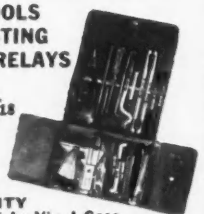

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● For use with [illegible] and 2 slaves. Ideal for [illegible] where each of 3 stations may [illegible] incoming trunks from the central office. Each station may [illegible] trunks from the central office.

● Use of these switches will [illegible] to handling [illegible] Each station will have to be familiar with [illegible] operating procedures.

● Attractive ebonite, quick acting switch. Excellent for switching audio [illegible] Shipping weight 2 lbs.

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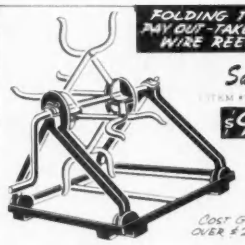

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By JOHN G. REYNOLDS

Phones Boom in Japan

JAPAN'S business boom is changing the country's social code and bringing the telephone unprecedented popularity. It used to be considered impolite to use the telephone. Businessmen and housewives would call on their business associates or friends. But today they have discovered the telephone is useful for both business and gossip.

About 950,000 people in Japan are waiting for telephones to be installed. Officials hope the backlog of orders will be cleared by 1972, the final year of the Telephone and Telegram Corporation's 20-year program.

The number of telephones per 100 persons in Japan was only 5.2 in March, 1961, against 40 in the United States, 31 in Canada, 15 in Britain, 10 in West Germany, 9 in France and 7 in Italy. Japan ranked 22nd on the world list.

American Describes Life in England

THE SAD tales about trial and travel in Suburbia have led an American living in England to write about conditions there.

This is what he says:

"You who live amidst the creature comforts of America have become soft and flabby compared to the English suburbanite. We live in Twickenham about 20 miles from central London in a rambling old house whose windows and doors are still ajar from the V-bombs of the last war.

"Our place has what is laughingly called central heating. It is a boiler set smack in the middle of the kitchen. When going full blast, it melts the frost on the walls and windows.

"A man came to the door and said he had our telephone. We had been trying for six months to get one, so we greeted him with happy cries of delight and invited him in.

"But he said, oh, no, he was the outside man and we would have to wait for the inside man to come and do the installation. He handed me the phone and left.

"Next day my wife noticed that whoever was there before us had a telephone and the holes were still in the wall where it had been plugged in.

"So she stuck in the wires and phoned me at the office and, sure enough, the call went through. Just then a wire fell out, but I came home that night and got a screwdriver and fixed it.

"Well, we finally had a telephone. Of course, nobody could call us because we had no number but we got used to that.

"About three months later, my wife went to the door and a man said he had come to install the telephone. She was so used to our system that she told him it had been installed long ago. He said something like 'They never tell us at the office' and went away muttering.

"Friends have told me I should write about this for the *New Yorker* and I would — except for one thing — We've never had a telephone bill."

To bring you many of the papers presented at the recent convention of the U. S. Independent Telephone Association we were forced to omit the regular TE&M features from this issue. You'll find the features in their usual spots in future issues of TE&M.

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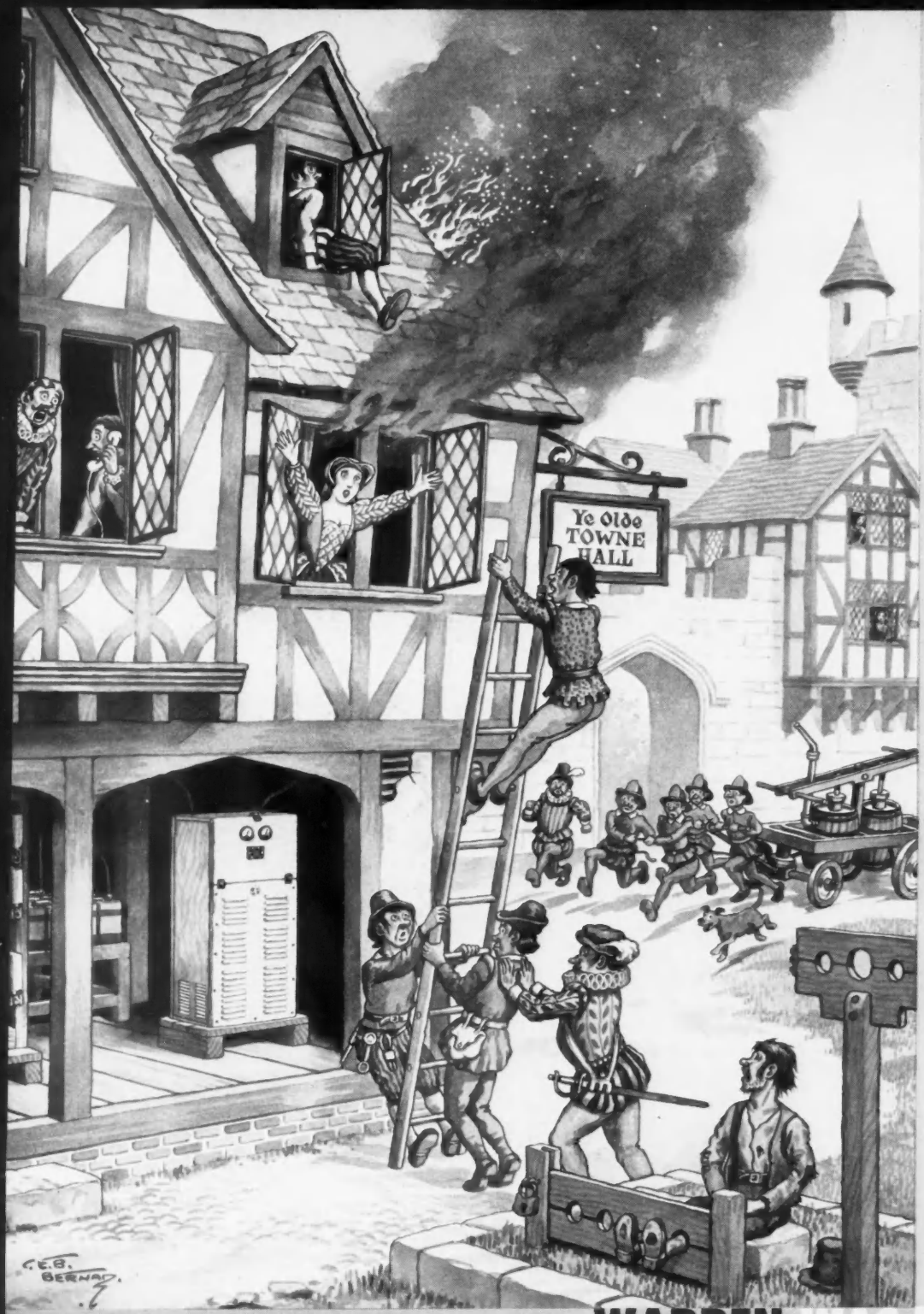

JUST FOR THE RECORD..... **WARREN WAS FIRST WITH A COMPLETE LINE OF TRANSISTORIZED BATTERY CHARGERS* FOR THE TELEPHONE INDUSTRY**

(AND WITH SILICON RECTIFIERS, YET!)

* The gentleman in the foreground is Sir Walter Raleigh, long famous as the man who introduced the joys of smoking to 16th century London — with the immediate consequences you see here.

The equipment you see in the foreground is the WARREN 3-phase TFR, a transistorized battery charger first introduced to the telephone industry by Warren, and with consequences immeasurably happier: specifically, more reliability, longer life, and more efficiency than had ever before been available to the industry.

The Warren 3-phase TFR is a solid state, constant voltage, fully automatic battery charger with a lot to offer:

- **LESS MAINTENANCE** . . . use of silicon rectifiers assures no aging adjustments are ever required
- **LONGER LIFE** . . . every component is conservatively derated for 30-year trouble-free operation
- **ADVANCED DESIGN** . . . features like rheostat control of float and equalize voltage . . . automatic overload protection for both battery and charger . . . assure better performance
- **COMPACT CONSTRUCTION** . . . Warren TFRs are real space savers, thanks to transistorized design

Warren offers a complete line of transistor float rectifiers in a full range of current ratings in 24, 48 and 130 volt models. We'll be happy to send you complete information on any or all of them.

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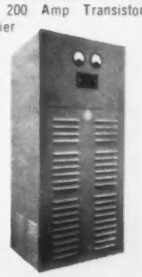
This is what a 3-phase Warren TFR really looks like: 48 TFR-200-48 Volt, 200 Amp Transistor Float Rectifier



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Nicopress Splice Separators save time, save tape, eliminate need for staggering splices, provide neater splices, eliminate shorts. Linemen readily make full-strength equal-tension splices in both parallel and twisted-pair conductors with Nicopress Sleeves and Tools, then merely snap the high-dielectric Nicopress Separator between the two splices. Tape is easy to apply over the insulated splices.

Nicopress Splice Separators are available in two sizes... 3456-B for both parallel and twisted-pair drop wire, and 3457-CD for rural distribution wire.

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